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MONTHLY REPORT

OF THE

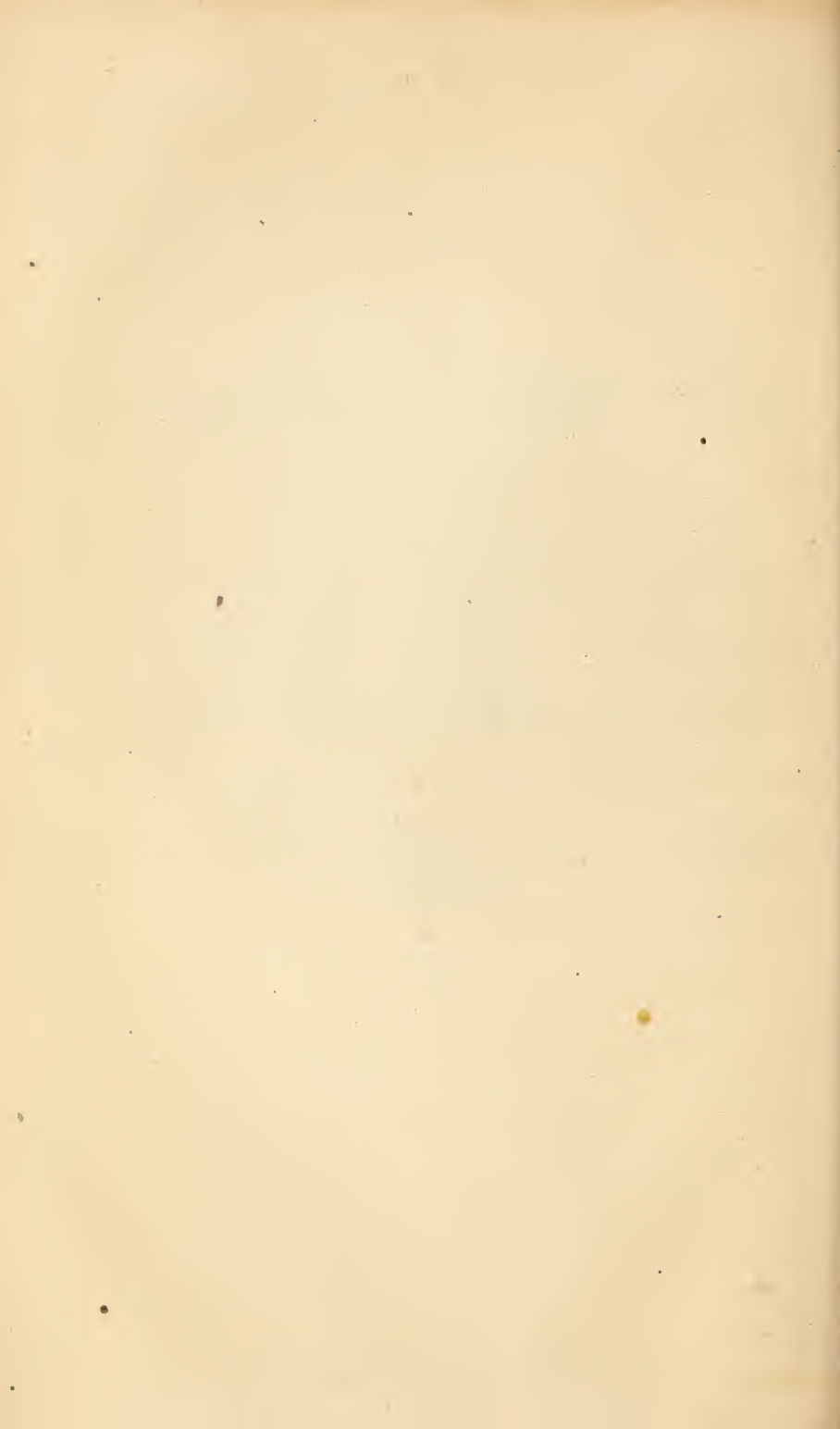
DEPARTMENT OF AGRICULTURE

FOR

FEBRUARY,

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1866.



MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,
Washington, February, 1866.

Although Congress, as soon as it convened, passed an act forbidding the importation of cattle, and all parts of cattle, as hides, hair, &c., in order to protect the country against the introduction of the cattle plague, yet no legislation, either State or national, has yet been had to meet the emergency arising from its introduction, should it unfortunately be imported. All the active energy of the Secretary of the Treasury, who has the enforcement of the law of Congress in his charge, may not be successful in preventing its introduction. In such an event, who is to deal promptly and efficiently with the evil? The country would be placed in precisely the condition in which Great Britain found itself upon the importation of the disease into its borders. Those interested in the foreign cattle trade asserted that the plague originated in the London dairies, and whilst the controversy on this point was violent, the action of the Privy Council hesitated. The pages of our reports will show the fatal consequences. Ireland was protected first by a law similar to our own, and lately by providing for prompt action, if the plague should be introduced. The necessity of similar legal provisions here was so obvious, that before this recent action of Great Britain was known, the leading article of this report was prepared, that the country might see the many ways by which infectious diseases are transmitted, and seeing them, that they might be guarded against. The danger from cholera, especially in the country, where medical attendance is not readily obtained, led to a consideration of this disease with that of the cattle plague, and in the March report the most available means of prevention and of the cure of the diseases embraced in the heading of the first article will be given.

The wool interest is one of the most important to this country. Whether we consider the value of sheep to the farm itself in clearing it of all undergrowth, and the worth of its manure, or its value as yielding the most wholesome of meats, or its necessity in furnishing the most useful and elegant clothing material, we must ever regard it as worthy of every encouragement. No greater skill and perseverance have ever been exhibited in the improvement of any farm stock than have been shown by the American wool-growers; but up to the commencement of the rebellion this great interest always languished. The cause of this was not so obvious. The history of the past protective tariffs shows that under none of them was wool-growing profitably established. That it encountered much opposition by the introduction of the cheaper foreign wools

is obvious, and by a still greater importation of foreign woollen goods. Still it is clear that there were other antagonistical agents, and the statistics of cotton production and its prices show that the great production of cotton was bearing down all other clothing material. To show this important fact is the purpose of an article in this report. No one can lament this antagonism more than myself; yet it is a *fact*, and one we should not blindly disregard.

The statistical tables of this report are interesting. They embrace the exhibit that this Department makes every year, of the amount, the acreage, the prices, and the value of the principal crops. Whilst the bushels of grain raised in 1865 have exceeded those of 1864 by 215,541,988, their value is \$359,301,854 less. The decrease in the value of the hay crop is \$91,894,457, and that of the tobacco crop \$5,989,614.

In a previous number of these reports I have mentioned the fact that the government of France designs to hold a universal exhibition of the industry of the nations, at Paris, in 1867. Everywhere an unusual interest is had in this Exposition. There is little doubt but that it will be the greatest yet held. This country is taking an interest in it not before manifested in any exhibition.

I have sent to a number of State and county agricultural societies copies of a publication prepared by the Department of State, intended to show what is doing to have our country properly represented at this exhibition. The publication comprises—

1. The message of the President of the United States to Congress on the subject of this exhibition, with accompanying documents.
2. Proceedings of the Chamber of Commerce of the State of New York on the same subject.
3. An address to the agriculturists, mechanics, &c., of the United States, explaining the objects and aims of the exhibition, by J. C. Derby, United States agent.
4. Instructions to applicants who have articles of any kind whatsoever which they may desire to exhibit.
5. Duplicate forms of application, to be filled up and signed by applicants.

To this publication I desire the careful attention of those receiving them, and hope they will take timely action in regard to having its objects understood by the members of their respective associations, and by all others who might become exhibitors.

There is one matter not mentioned in these documents, to which I particularly call the attention of agricultural societies, more especially the State Boards of agriculture. It is this:

N. M. Beckwith, United States commissioner at Paris, is desirous of presenting plans of the best farms in our country, such as is generally known as model farms. The State societies have, from year to year, offered premiums for such, and therefore can readily obtain plans of the best of them. It is desired that the plans should embrace every variety of farms, as grain-producing, grazing, dairy, garden or vegetable, as well as those of mixed husbandry. They should

comprise prairie, upland, bottom, and rolling lands, with the woodlands attached to them, especially such as have been reduced to woodland pastures.

As soon as it can properly be done, I desire these plans to be forwarded to this Department, accompanied with clear and full descriptions and explanations of the different parts of the farm, the purposes for which used, the general management, especially as to rotation of crops, and the mode of cultivation, if peculiar and successful. As soon as I may receive them I will have them neatly and carefully copied and forwarded to the United States commissioner at Paris.

In preparing these plans, the scale upon which they are drawn should be stated; the places occupied by the houses and other farm buildings should be designated, and where these buildings are more than ordinarily good, and found to be well adapted for their special purposes, it would be useful and interesting to give their ground and elevation plans.

Our country has many such farms, and it ought to be, as doubtless it will be, the pride of individuals, of county societies, but especially of State Boards of agriculture, to have these properly exhibited in such an European Exposition as that in Paris will certainly be.

ISAAC NEWTON,
Commissioner.

THE CHOLERA, THE CATTLE PLAGUE, THE HOG CHOLERA, THE TRICHINIS, THE ANIMAL SMALL-POX.

The time is now near at hand when emigration from Europe will, in all probability, bring the cholera into the United States. It has been prevailing in some of the West India islands during the winter, and the warmer weather will have a tendency to increase it there, and through visitors to the north it may reach our country.* When we reflect upon the great number of lives lost during its previous visits, especially in the farming districts, from simple ignorance of the character of the disease, inducing both a self-treatment the reverse of what it should have been, and a disregard of premonitory symptoms, when only the disease might have been controlled, a proper regard for the well-being of the class which this department represents, demands that their attention should be timely drawn to the character of this fatal epidemic, so that, if it should come, they may be prepared. Such preparation is especially necessary with the farmer, for he cannot have that immediate medical attendance demanded by the rapid progress of the disease.

With the cholera we group the other diseases named in the heading of this article, for although most of them spare the farmer himself, yet they are fatal to his stock, and belong to the same order of diseases, namely, those that are propagated by animal poisons. Our government, it is true, has taken steps to protect the country from one of them, but although the officer whose duty it is to enforce the protecting laws of Congress exhibits most commendable watchfulness and promptness in action, yet in such a country as ours, bordering so many miles upon another, which has not yet adopted the measures of protection it should have, the people must aid the officers of government. We are not to permit, as was allowed in Great Britain, an interested class of cattle dealers to mislead the public, so that they might continue a foreign and domestic trade in cattle that spread the plague into almost every neighborhood. In a British journal of agriculture we have reported the ways of its introduction into many English and Scotch counties, and they are all traceable to the selling and driving cattle to and from the public markets. The hog cholera has, in this way, been scattered, time and again, over the western States, and should the cattle plague ever obtain an entrance into the country, we know that the power of the government will prove useless if not seconded by the most energetic co-operation of the people.

To urge them to continued watchfulness is our duty. And this can be done in one way only, by impressing on their minds the fatality which will follow remissness on their part.

We therefore give such information of these diseases as will serve to draw public attention to them, and such protection as circumstances may render necessary.

* Since this article was put in type, we notice that New York has created a board of health for New York city, and the military authority has ordered a quarantine of twenty-five days on all vessels coming to New Orleans from these islands.

Although all the diseases named, except trichinis, originate from animal poisons, yet they do not affect the same parts of the body and in a similar way. Thus cholera is a disease of the stomach and bowels in the beginning, whilst the cattle plague and small-pox originate in the blood. The cause of the last disease must be swallowed; of the first, inhaled into the lungs. But what is this cause? Science has long sought to answer this question, but as yet most vaguely, and, therefore, not satisfactorily. Still, as in the discovery of the sources of the Nile, some progress is making, and although certainty has not been reached, the darkness is being dispelled.

A growing opinion is that the cause of these diseases is an atomic particle endowed with life-power, that is, to convert healthy parts of the body into its own elements, or into like atoms, from which the disease originated. In cholera, and perhaps in hog cholera, this atomic particle cannot reproduce itself unless it effects a lodgement in the stomach, but when there it rapidly converts the watery particles into numberless atoms like itself, and these, as in the fermentation of yeast, are endowed with a similar power of self-propagation. They draw to themselves the watery particle of the blood in the veins, and the blood robbed of this water becomes too thick to circulate. Coldness ensues, cramps follow, until life is destroyed.

The atomic particle of disease in the cattle plague and small-pox is inhaled into the lungs, where it mixes with the blood and converts it into its own particles. And this it does for some days, called the *incubation* of the disease, unnoticed, for it is unmarked by any outward indications of its presence. The animal gives no evidence that it is not in good health. But disease is antagonistical to life, and when these diseased atoms become so numerous as to interfere with the proper action of life, then the struggle commences between these opposing forces. One must overcome the other. Nature endeavors to throw from the blood these atoms of disease; in the cattle plague or typhus fever they are forced upon the internal surfaces of the stomach and bowels or lungs; in the small-pox, upon the external surfaces of the skin: In this effort to throw off the disease nature often sinks from exhaustion.

HOW THE POISON OF DISEASE MAY BE TRANSMITTED FROM THE SICK TO THE WELL.

And here the inquiry presents itself, *In what way do these atoms of disease obtain their lodgment in those portions of the body where they are capable of self-multiplication?* The answer tends to lead us to a useless notice of those terms about which medical men have written and disputed so much—namely, contagion and infection. These controversies but serve to show that even such diseases as those we are considering are neither contagious nor infectious. We choose rather to follow what the common sense of every person tells him is true, that these and like diseases, indeed nearly all diseases, are communicable. Whether this communicability is to be called contagion or infection, or by any other name, is to us immaterial. We speak of this communicability when we say of the cholera that it is an epidemic; of the cattle plague, that it is an epizootic; that

both are so readily multiplied that every care to prevent their increase is the first duty of man to himself and his fellow-men; to the cattle over which he has dominion, and a no less duty of government to its subjects. It is more important to determine the means by which the atom of disease is brought into the body, than to dispute about the names by which they should be called. For, having a certain knowledge of these agencies, we can know how best to destroy them. In speaking of them we will separate the diseases, and notice—

1. *Cholera*.—Whatever may be the character of the germ of these diseases, whether a poison simply, or in the nature of an *ovum* or egg, from which, cell-like, it rapidly multiplies itself, we know from facts that there are agencies by which this germ is conveyed into the healthy body. The following statements in regard to the propagation of cholera we take from the London Social Science Review, edited by Benjamin W. Richardson, M. D. :

“There seem to be three distinct modes by which the cholera poison enters the human body. In the first place, the poisonous cells may be disseminated on articles of clothing in the dried form, and may thus be conveyed long distances without losing their peculiar properties. Carried in this manner, some person who undertakes the cleansing of these articles becomes exposed to the poison as it emanates in the dried and granular form from the infected material. The poison is thus lodged in the nostrils or mouth, mixes with the secretions there, is swallowed, enters the alimentary canal, finds there the situation for rapid growth, robs the blood of its watery parts for its own support, and gives rise to the disease.”

“A second mode by which the poison travels is by direct conveyance of the poison thrown off by the sick to the bodies of the healthy, from uncleanness on the part of attendants, the poison adhering to the vessels used by the patient, or to the hands of the attendants, and being thus conveyed. We ourselves knew an instance where a wife was clearly poisoned with cholera by drinking from a basin into which her husband, who was suffering from cholera, had vomited, the basin having only been rinsed with cold water. The symptoms in this case were as clearly traceable to the swallowing of the poison as though it had been arsenic or antimony.”

“We add to the above remarks the fact that an assistant in the cholera hospital at Berlin produced cholera in himself by tasting the excretæ of a cholera patient, and that the symptoms were induced within six hours.”

“In the course of great epidemics, these two methods of taking cholera are by no means uncommon; and, indeed, the propagation of cholera from country to country as frequently takes place by means of infected clothing as by direct personal intercourse; at the same time the progress of the disease would be very slow if it depended on these methods alone. The great means by which cholera poison is propagated to communities at large is by the water supplied for the domestic wants of such communities. A cholera patient is imported into a country; he is yielding the poison, and eliminating it freely. From him it is conveyed to the sewer, and through the sewer to the well, or it may be direct into the river that supplied every household with water. Thus the poison is disseminated at large, each new case adding to the mischief, and at last a universal and decimating plague prevails until it can find no more victims on which to disport itself. For the discovery of the fact of the communication of cholera by water, the world is indebted to one of the most illustrious men of our time—the late Dr. John Snow.”

“The proof of the communication by the means stated was afforded by Dr. Snow in various ways. Thus, in 1854, he showed that of 286 fatal attacks of

cholera occurring in the south districts of the metropolis, where one water company, the Southwark and Vauxhall, supplied water charged with London fecal impurities, and another company, the Lambeth, supplied a pure water, the proportion of fatal cases to each 10,000 houses supplied by these waters was, to the Southwark and Vauxhall Company's water 71; to the Lambeth 5. But there was another fact of singular interest brought out by Dr. Snow during this epidemic. In the latter part of August, 1854, a terrific outbreak of cholera commenced in London in and about the neighborhood of Broad street, Golden square. Within two hundred and fifty yards of the spot where Cambridge street joins Broad street, there were upwards of 500 fatal attacks of cholera in ten days. Dr. Snow at once determined that a pump in Broad street was the source and centre of the calamity. He found that a case of cholera had originally been brought to an inn close by the pump; he came to the conclusion that the sewer from the inn had a connexion with the well, and that the water of the well was thus directly poisoned. He recommended the vestry of the parish to remove the handle of the pump, whereupon the pestilence ceased to spread, and afterwards, when all was over, a committee of inquiry found that there was a direct connexion between the sewer and the well, and that the water was impregnated with the sewage from that particular public house, and with that of several adjoining houses. Another important fact was elicited in connexion with the Broad street epidemic, which, if we were superstitious, we should say was almost intended to prove the origin of the disorder. An old lady who had once resided in Broad street had retired to Hampstead. For some years, however, she had been in the habit of sending daily to the Broad street pump for a keg of water for drinking. She had never suffered before; she drank of this water after it had become impregnated with the cholera excretæ, contracted cholera and died. Her niece drank of the same, and also took cholera, but recovered. These were the only cases that occurred in that district."

The three modes of communicating the cholera here referred to are by clothing, where the infected matter is dried and carried by the air into the nostrils or mouth; by uncleanness, resulting in a similar transmission; and by water used for drinking. They serve one common purpose, to carry the germ of the disease from the sick to the well. We may therefore regard all possible modes of such conveyance as alike fatal, whether the excretæ or passages from the sick, whether by vomiting or purging, are exposed to drying winds and blown about so as to be inhaled, or thrown on the surfaces of the ground, where they may be washed into wells, or cast into privies, or filter through the sewerage of the city into wells or springs, or carried into rivers; all are agencies of communicating the poison with which these excretæ abound. It should be, therefore, the first aim of sanitary regulations to secure these excretæ and dispose of them where neither the air nor the water can carry them to those in health. This is done by digging trenches in a remote or safe place, and where the soil, by burning, or by its nature as a clay, may hold these poisonous elements. If not so secured there is no guarantee of safety, because no one can determine that privies or sewers have no communication with wells. Horribly disgusting as is the thought that such communication can at any time exist, yet the facts stated by Mr. Richardson admonish us that it is probable. Look at the sewerage of Washington. Its narrow channels choaked, its larger ones hastily constructed, and these having wells near them.

2. *Cattle plague*.—A consideration of the agencies by which the poison of

this disease is disseminated will make us more sensible of the necessity for the exercise of the greatest care than from what may be stated of any disease affecting the human family, for the reason that it has been more closely studied and written of more freely. Physicians, fearing that in epidemics the claims of humanity may be disregarded if the agencies in the transmission of disease were fully stated, have been disposed rather to deny these agencies than to caution against them.

In a previous number of these reports we noticed the fact that in the western German nations a military cordon is drawn around the place where the rinderpest may break out, and that no communication is allowed outside of it. But on one occasion an apprentice carpenter boy slipped out of one of these cordons and went to a neighboring farm owned by his father, and whilst there repaired a cow stall. The cow contracted the disease, having inhaled the atoms of disease which the clothes of the boy had become infected with whilst in the cordon. These had been in contact with parts of the stall and left upon them the atoms, which were inhaled by the cow. But the following extracts from the regulations of the English privy council, drawn up by a physician, more clearly indicate the numerous things by which this disease may be propagated. After stating that the infection is communicated by all parts of the diseased animal, as the skin, hair, horns, and hoofs, as well as by the flesh, fat, entrails, and blood, but especially by the intestinal discharges, which must be regarded as the principal agents in communicating it to other cattle, the following enumeration of infected things and places is given :

“5. It follows from the above that all articles which have been in contact with a diseased animal, or any of its discharges, particularly its fæces, are capable of carrying the infection for an indefinite time, and must be looked upon as being actually infectious to other healthy animals. Such are racks of wood or iron; cribs or mangers, of wood, iron, or stone; articles used for fastening animals; leather collars and straps, ropes and chains; all harness of any animals used for drawing, and all carts, wagons, and carriages which they have actually been drawing; the stalls or sheds in which animals have been standing; the whole lengths of the gutters and drains through which their urine has been flowing; the entire surface over which their manure has been drawn, and all implements with which the removal has been effected; the entire dung-heap upon which infected manure has been put, and the fluid contents of the manure-pit, or of the special receptacle for the urine; yards or sheds in which cattle have been kept to tread down long straw, and the whole of such straw and manure, as also the ground beneath them; paths and roads upon which diseased animals have walked or been carried; fields and meadows upon which they have been grazing; all carriages, trucks, and railway trucks in which diseased cattle have been conveyed, and all the platforms, bridges, and boards upon which they have been moved thereto; as also all apparatus which has been used to pen, tie, lift, haul, lower, and fix them; the clothes, and particularly shoes and boots, and iron-pointed sticks of drivers and their dogs; the apparel of all cattle-herds or attendants, particularly their shoes and boots; the shoes and boots of all persons visiting places where diseased cattle are or have been standing, and, in general, the clothes of all persons visiting infected places, ships, and all parts of platforms, stages, stairs, and bridges, hoists and cranes used for embarking and landing the animals; markets, and all sheds and pens and implements used in contact with cattle; slaughter-houses, and all persons and implements in them which have

been employed upon sick cattle, as also sundry parts or organs which come from sick animals killed in slaughter-houses; knacker's yards, trucks or carts, horses, men, and implements which have been employed in the disposal of sick or dead animals; wells and ponds from which diseased cattle have been drinking, or into which any portion of their excretæ has had any opportunity of flowing, directly or indirectly; all fodder, grass, hay, straw, clover, &c., and particularly remnants of fodder upon which diseased cattle have been feeding; and, in general, all persons, animals, places, buildings, and movable things which have been in contact with matters proceeding from diseased cattle, or with such diseased cattle themselves."

In some of the counties of Scotland, the moving of cattle from common markets is prohibited. But in healthy counties the disease has suddenly broken out, and a close examination of the roads has shown cattle tracks, pointing to the fact that during night-time, in violation of this law, cattle had been driven from infected market places. When, therefore, the neighborhood cattle were taken over the road for special purposes, they contracted the disease from its atoms, left by the feet, droppings, or urine of the infected animals.

The following remarks, from an able article on the cattle plague, written by Dr. William Budd, of England, and published in the *London Social Science Review*, will show how readily not only the rinderpest, but cholera and other diseases, may be spread through negligence in properly securing the excrement of diseased animals and persons:

"In a country, taking the line of the watershed, it would seem to follow that these discharges must often, like those of cholera and of human typhoid, contaminate the drinking-water, which, when in form of small running streams, may, in its turn, become the means of carrying the disease to distant spots. The attention of continental observers does not seem to have been called to this mode of transmission, but physicians here who are acquainted with the evidence collected upon it in regard to the two human diseases just named will easily see how it may often intervene in causing many unexplained outbreaks.

"In the town dairy, on the other hand, these discharges are distributed by the sewer. In certain districts of London, for many weeks past, the sewers have been constantly fed by this infectious stuff. From what we know of this mode of dissemination in the typhoid fever of our own species, it is more than probable that effluvia from this source, finding their way through untrapped drains, may carry the cattle plague to cows that have had no other contact with it. Practically, the greater part of the poison cast off by the infected animal takes the form of manure. This being so, all thoughtful men must be anxious to know what has become of all the cattle-plague manure created in London and its suburbs within the last two months. If it be true, as many fear, that much of it has already been taken into the country to be spread over the land, the results may be disastrous indeed. I have myself reason to know that no longer ago than Saturday last (August 5) a load of manure, which had undergone no disinfecting process, was sent from an infected dairy to one of the canals which radiate from London to be despatched into the country. It would be interesting to know what has become of that precious cargo. Did it, perchance, meet any droves of cattle in its way through London? Is it at this moment travelling in some slowly moving barge, with its trail of infection behind it, to the meadows of Berkshire or Bucks? To what manure yard next were the horse and cart sent which first bore it away?"

In this neglect to enforce proper sanitary measures, we will see presently how wide-spread the cattle plague has become in Great Britain, and with what

severity its government is condemned for its inefficient measures, and more lamely enforced than inefficient. But the foregoing extracts exhibit the ways in which cholera, typhoid fevers, and the cattle plague are propagated. The human diseases may not be as virulent as the last one, but their modes of dissemination are the same, and therefore demand like means against their spreading.

It is our purpose to consider these hereafter. Our best protection, our point of strongest defence, is against their introduction, and therefore it is that we here notice the necessity of protection by government.

THE DUTY OF THE GOVERNMENT.

Whoever will pause but for a moment's reflection will see that against the introduction of diseases so fatal as cholera and the cattle plague, the government owes a duty of the most weighty character to every citizen. If energetic measures at New York have prevented the spread of the cholera when brought there last fall, how studiously should have been the minds of our national and State legislators and executive officers turned to perfecting these measures and extending them, that the country might be more effectually guarded when the warm weather of spring and the increased emigration will add so largely to the danger of the introduction of the disease. No trade in cattle or their products should have been permitted with the British North American provinces, but upon the condition that the most stringent regulations should have been adopted and enforced against the introduction of the cattle plague in those provinces. How little has yet been done to protect the people against either disease? We seem to be content with the half-way measures of Great Britain in its treatment of the cattle plague. Its non-effective action has spread this disease into nearly every part of England and Scotland, and not unjustly does that able paper, the *Mark Lane Express*, thus speak to it:

"If the English government is not responsible for, at any rate, all the ravages of the plague during the last few weeks, we will bid farewell to all law and logic. Does the government pretend to throw upon anybody else's shoulders the duty of combating the disease? If the government owns that such was its duty, what excuse can it offer for not having performed this, and spared us the greatest national calamity of our generation? Did it not know what to do? Why, the French veterinarians came over long ago, and so reported upon the nature and course of the disease in our country that the French government acted at once, and successfully held the plague out of its empire. Our government 'didn't know,' and yet the French government had already examined into the whole affair as it existed in England, and thereupon did all that was required for the safety of French cattle as long since as September. Does our government suppose that, though it must have known what to do, it will be excused because the public generally would not have approved the only efficient measures? If it is not one duty of rulers to take the initiative to ascertain what steps are requisite in great and sudden emergencies, and then to inform its people and thus create an enlightened opinion on the matter, it is about time to give up theories of government, to expect nothing wise, nothing virtuous, nothing progressive from statesmen, but merely to look for this result, that they shall move when they are pushed, and stop when the popular pressure relaxes.

"The most wonderful thing just now is to see stock owners losing their

cattle, and still in a resigned attitude of mind—rosy only with good-natured sadness, not with boiling temper. But it is enough to enrage any class, except that of tenant farmers, to take one glance at other countries saved by administrative vigor, and then to look at our own condition. Here are a few of the figures relative to Great Britain:

Week ending—	No. of attacks.	Week ending—	No. of attacks.
October 14.....	1, 054	December 2	3, 828
October 21.....	1, 729	December 9	5, 356
October 28.....	1, 873	December 16.....	6, 054
November 4.....	1, 765	December 23.....	6, 256
November 11.....	2, 580	December 30.....	7, 693
November 18.....	2, 669	January 6.....	9, 120
November 25.....	3, 610	January 13.....	9, 243

“The weekly increase latterly has been at the rate of about one-fifth. Supposing that this rate of progress continues, what will be the number of attacks in half a year’s time? It is the old calculation over again of a farthing for the first nail of a horse’s shoe, two farthings for the second nail, four farthings for the third, eight farthings for the fourth, and so on till you are surprised at the amount for the last nail of the fourth shoe. Adding one-fifth every week, we get some 40,000 attacks for the first week in March, 97,000 for the first week in April, 202,000 for the first week in May, 500,000 for the first week in June, over a million for the first week in July, by which time the total of cases would amount to no less than six millions. Half the head of cattle in the kingdom would, at this rate, be attacked by the first week in June. We do not say that this disease will spread regularly with this rapidity; we only say that it is actually extending with this speed now, and has been during the last few weeks. If anybody chooses to take it for granted that the totals will presently be found to fall off, and the disease gradually grow weaker in its murderous course, we are equally at liberty to expect that the mortality will increase.”

These complaints are stated not less justly than indignantly. An Englishman must keenly feel the inefficient care exercised by his government, when he can make such a contrast between the action of his own free government and that of the despotism of the French government. He must sorely feel its negligence when he can say, “it is about time to give up theories of government; to expect nothing wise, nothing virtuous, nothing progressive from statesmen.”

May this country escape the diseases so greatly threatening it, that our own people may have no occasion for like reflections! As to measures for their protection against the introduction of the cholera and rinderpest, our legislative action is almost nothing of itself. The Emperor of France promptly sent a commission into England to examine the cattle plague, embodying a scientific and practical knowledge capable of determining the nature of the disease. Their report presented it in the same light as given in the September number of the Monthly Report—as an incurable and most infectious disease, and the best measure that could be adopted was the most prompt and vigorous to prevent its introduction into France. The Emperor at once acted in conformity with the recommendations of the commission. The authorities of Great Britain listened to the statements and perversions of facts by those interested in the foreign cattle trade. These maintained that the cattle plague was not imported, but originated in the foul dairies of London. And so, halting between two opinions, and issuing

orders, but not enforcing them, the government of Great Britain allowed the plague to be disseminated until, as is seen in the above remarks of the Mark Lane Express, it is sweeping through England and Scotland. Ireland is yet free from it.

In the enforcement of our law against the importation of cattle and their parts the Secretary of the Treasury is prompt and energetic, but the danger lies in the introduction of the disease into the British provinces. Once there, it could hardly be kept out of the States, and hence some action should be had immediately, through which these provinces and our government could mutually protect each other against the introduction of the plague, and, indeed, against all fatal infectious diseases, whether affecting the human family or the farm stock.

But there is one thing in which all our governments, national and State, have been wholly remiss in their duty to the people. Neither of them have yet legislated with reference to suppressing these diseases, if introduced into our country. Who is authorized to place a cordon around the first cases that may appear, or, by some other effectual means, take hold of all the numerous things by which the contagion may be spread, and by their destruction or purification, protect other persons or animals from the disease? It was in this protection that the government of Great Britain was false to its duty. As we have seen, it permitted all animals to be driven to and from the markets; the infected manure to be carried along the highways and into fields; individuals to visit the sick cattle, and, in their clothing and upon their shoes, to spread the disease into healthy localities. Contrast this inaction with the system of cordons established by the German governments, and is it any wonder that an Englishman writes, "it is about time to give up theories of government." There are circumstances, imperilling the common safety, when anything else than what seems an arbitrary exercise of power is disloyalty in truth. Such terrible pestilences as the cholera and the cattle plague demand the most vigorous action, and the most unqualified giving up of individual freedom to think and to do as it chooses. To authorize such action is now the imperative duty both of the general and the State governments.

In our examination of the diseases we have placed in the heading of this article, we have searched for preventives and remedies. These we shall give in the next monthly report. What has been here written will serve to show the nature of the pestilences threatening the country, and to remind both Congress and the State legislatures how little either have yet done to secure the people in their lives and their property against these diseases.

Since this article was prepared we notice, from the London Agricultural Gazette, that Great Britain has done for Ireland just what we have stated should be done for this country by State and national legislation. Heretofore the privy council simply ordered the non-importation of cattle into Ireland, but

made no provision for action, in the event of the introduction of the cattle plague. That paper, of February 3, says :

“The order in council with reference to the cattle plague in Ireland, which was issued last Saturday, requires that, on the occurrence of the cattle plague on any farm, the lord lieutenant shall be informed by telegraph, and shall thereupon immediately despatch an inspector with the ordnance map in his hand, upon which he shall there and then draw a line of isolation around the infected farm or district, which line is to be *kept* by the county constabulary, and no domestic animal is to be allowed to cross it until twenty-eight days after the disappearance of the disease. Why has not a measure of this kind long since been adopted here?”

We here see that, after all the experience of Great Britain, the only hope of staying the disease is by a resort to the German mode of establishing a “cordon.” In September last we gave our preference to this way of meeting the disease, believing, as we then did, and still do, that, for all purposes, the disease should be regarded as most fatal, and as incurable as fatal.

Accounts are going the rounds of the press that vaccination is a preventive; that is, the cow-pox, from which we originally obtained our vaccine matter, is a safeguard against the rinderpest. The following action in Aberdeenshire, and the opinion of Dr. Murchison, show the little reliance to be placed in this vaccination. The extract we take from the paper just referred to :

“The 300 deaths per diem from the cattle plague, in Cheshire, have doubled in a fortnight. Upwards of 5,000 fresh cases and 4,270 deaths took place last week. The disease has reappeared in Aberdeenshire; and the whole stock of the farm was immediately purchased for the county association, killed, and buried five feet deep. Although Mr. Tollemache still maintains his faith in vaccination, notwithstanding that some at least of his stock have sickened, yet its powers as a preventive have already been disproved. One of the recent cases in the north is indeed stated to have been just recovering from cow-pox of the natural kind when she was attacked by rinderpest.”

And Dr. Murchison writes as follows to the Times :

“The points of resemblance between cattle plague and small-pox are so striking that certain observers were led to hope that vaccination might protect cattle from the prevailing disease. The experiment, I believe, has now been fairly and fully tried; and, although the first accounts appeared favorable, there is sufficient evidence that vaccination confers no permanent protection from the plague. It is well that this fact should be generally known by publication in the Times. Rigid isolation, and the suspension of all movement of living cattle, must still be the preventive measures on which we mainly rely.”

The legislation now demanded of Congress and the States is to provide for the most complete and rigid isolation wherever the disease may appear; to authorize county associations to purchase the cattle of an infected farm, and destroy and bury them; and to enforce the observance of any preventive that future trial may show is effectual.

THE WOOL-GROWING INTEREST.

Last summer we commenced an examination of the statistics connected with the wool-growing interest of our country. We obtained from official publications the amount of wool, of different values, imported under the various tariffs from 1824 to 1861, showing the amount coming in free of duty, and the amount under a specific duty, and that under an ad valorem duty, the amount and value of different woollen goods imported under the same tariff acts, and the prices of wool during the same years.

But these statistics serve to mislead unless considered in connexion with others, namely, the amount of the circulating medium, the general prosperity of the country, and the particular form of our industry. For instance, the swelling of the currency under the pet bank system, stimulated consumption into an extravagant folly, during which imports of woollens were largely increased, and must have been so under the same rates of duty even if almost prohibitory, when the currency was not thus expanded. Again, in the prosecution of the works of internal improvement by the several States from 1835 to 1840 large foreign debts were contracted by the States, which appeared here in the form of an increased importation of merchandise. And again, whilst the country was slowly recovering from the exhaustion occasioned by the state of the currency and its excessive imports just referred to, that is, from 1842 to 1846, we have, following the latter year, in which a non-protective tariff was adopted, a high state of prosperity, occasioned not by such change, but by the enormous exports in consequence of the potato famine in Ireland and short European crops. This prosperity led to increased consumption of wools and woollen goods, creating such a demand for them as to enhance the price of our domestic wools.

A reference to the statistical tables we have compiled would, apart from the matters we have named, present this general fact, that under the protective duties on wool and woollens, the prices of wools decreased, and under the non-protective tariffs the prices advanced. In fact, there are no kinds of knowledge more dangerous than statistical tables, for being a very condensed statement of facts, a *multum in parvo*, we must be certain that they contain not only the truth, but the *whole* truth, and *nothing but* the truth. To determine this requires a familiar acquaintance, not only with the statistics, *but with all the agencies connected with the results they represent*. It was this fact that forced the Department of Agriculture into the publication of these monthly reports in connexion with the operations of its statistical division. The tables must be explained either to be rightly understood or properly appreciated.

To show the operation of the increase of currency and of general prosperity upon protective laws, as affecting the prices of wool, we give the following from the tables we have compiled:

Imports and exports of foreign wool under the tariff act of 1842.

[This act placed a duty of five per cent. ad valorem on wool costing not exceeding seven cents, and a specific duty of three cents per pound and thirty per cent. ad valorem on wool costing more than seven cents. It went into effect August 30, 1843.]

Year.	IMPORTS.		EXPORTS.	
	Weight in pounds.	Value.	Weight in pounds.	Value.
1842-'43, (8 months)	3, 332, 654	\$190, 352	184, 446	\$54, 695
1843-'44	13, 808, 645	754, 441	199, 763	97, 019
1844-'45	23, 382, 097	1, 553, 789	450, 943	136, 005
1845-'46	16, 427, 952	1, 107, 305	130, 295	26, 921
1846, (5 months)	4, 296, 513	300, 657	45, 363	4, 692
Total	61, 247, 861	.....	.....	.....
Import per month	1, 249, 956	.....	.....	.....

Imports of foreign wool under the tariff act of 1846.

[By this act an ad valorem duty of thirty per cent. was placed on all wool. It went into force December 1, 1846.]

Year.	Weight in pounds.	Value.
1846-'47, (7 months)	4, 118, 129	\$250, 473
1847-'48	11, 381, 429	857, 034
1848-'49	17, 869, 022	1, 177, 347
1849-'50 .....	.....	.....
1850-'51	20, 309, 693	1, 346, 847
1851-'52	18, 341, 293	1, 930, 711
1852-'53	21, 595, 079	2, 669, 718
1853-'54	20, 200, 110	2, 822, 185
1854-'55	18, 534, 415	2, 072, 139
1855-'56	14, 737, 393	1, 665, 064
1856-'57	16, 502, 060	2, 125, 744
Total	163, 589, 628	.....
Import per month	1, 422, 518	.....

These tables exhibit under the tariff of 1842 an average importation per month of 1,249,956 pounds, and under the tariff of 1846 an average importation per month of 1,422,518 pounds. By the table of prices given in Mr. Randall's work on sheep husbandry, published in 1862, we have an average price of wool under the first of these tariffs as follows: fine $39\frac{1}{6}$, medium 34, and coarse $28\frac{1}{2}$ cents per pound. Under the second tariff as follows: fine $47\frac{1}{2}$, medium $41\frac{1}{2}$, and coarse $35\frac{1}{7}$ —a difference in favor of the latter of about seven cents per pound.

The inference to be drawn from these facts is, that either wool needs a higher protective tariff than that of 1842, or else that it encounters a home competition which operates against it with stronger force than the importation of foreign wools.

The tariff act of 1842 was passed when the currency of the country was very low, as will be seen from the following table giving the circulation in January of each year and prices of wool in same month.

Years.	Amount of circulation in January.	PRICES OF WOOL IN SAME MONTH.		
		Fine.	Medium.	Coarse.
1837.....	\$149,185,890	-----	-----	-----
1838.....	116,000,000	-----	-----	-----
1839.....	135,000,000	-----	-----	-----
1840.....	107,000,000	-----	-----	-----
1841.....	107,000,000	-----	-----	-----
1842.....	83,000,000	-----	-----	-----
1843.....	58,563,608	\$0 35	\$0 30	\$0 25
1844.....	75,000,000	37	31	26
1845.....	89,000,000	45	38	31
1846.....	105,000,000	40	35	30
1847.....	105,000,000	47	38	30
1848.....	128,506,091	45	38	30
1849.....	114,000,000	33	30	23
1850.....	131,000,000	47	40	33
1851.....	155,165,251	45	37	32
1854.....	204,689,207	53	47	42
1855.....	187,000,000	40	35	32
1856.....	-----	50	38	35
1857.....	214,778,822	58	50	43

This table shows that the prices of wool did not advance and recede with the amount of the currency. In some years it seemed to be influenced by it; in others not at all. The protective duties of 1842 did not place it under the operation of an increase in the currency any more, if as much as the ad valorem duty of the tariff of 1846. Indeed, so many are the elements affecting prices, especially of wool, that we must take a very comprehensive view of them, else statistical tables of wool production, prices, imports and exports of wool and woollens, and the currency, will serve no other purpose than create doubts, or mislead entirely.

But still there is clearly seen the great fact that from 1824 to the commencement of the civil war the growing of wool has not been as profitable as it ought to have been, or as all ought to wish it may become, when its great importance, in every light in which it may be regarded, is considered. We think there is a cause for this past unfavorable condition of the wool interest; and this cause is one that has never been mentioned, so far as our recollection serves. It is found in the fact that wool has a great domestic competitor, namely, cotton.

The very fact which so generally existed before the rebellion—the mixture of cotton with wool, even in broadcloths—shows the compulsion on manufacturers to avail themselves of the cheaper material in order to sell even broadcloths, which, far more than any other dress goods, were freed from the competition of cotton cloth; and this mixing of wool and cotton was most general at a time when wool was so unremunerative to the wool-grower that the number of sheep in the country was actually decreasing.

The following table exhibits the amount and price of cotton during these years, under the tariffs of 1842 and 1846; and the comparison of the production and prices of cotton with the rise and fall of prices of wool, will show that the latter was more influenced by the former than any other cause, save in the years 1853 and 1854, when the excessive amount of currency had forced the price of wool much above its highest point:

Years.	Pounds.	Price.	AVERAGE PRICE OF WOOL.		
			Fine.	Medium.	Coarse.
		Cents.	Cents.	Cents.	Cents.
1842	584,717,017	8.1	43 $\frac{1}{4}$	38 $\frac{1}{2}$	31 $\frac{1}{4}$
1843	792,297,106	6.2	35	30 $\frac{1}{4}$	25 $\frac{1}{2}$
1844	663,633,455	8.1	44 $\frac{1}{4}$	36 $\frac{3}{4}$	30
1845	872,905,996	5.92	42	36 $\frac{1}{4}$	30 $\frac{1}{2}$
1846	547,558,055	7.81	38	32 $\frac{3}{4}$	27
1847	527,219,958	10.34	47	39 $\frac{1}{2}$	30 $\frac{1}{2}$
1848	814,274,431	7.61	39 $\frac{3}{4}$	34 $\frac{1}{2}$	27 $\frac{1}{2}$
1849	1,026,602,269	6.4	39 $\frac{1}{4}$	34 $\frac{1}{4}$	30
1850	635,381,604	11.3	45 $\frac{1}{2}$	38 $\frac{1}{2}$	32 $\frac{3}{4}$
1851	927,237,089	12.11	46 $\frac{3}{4}$	40 $\frac{3}{4}$	35 $\frac{1}{2}$
1852	1,093,230,639	8.05	44 $\frac{3}{4}$	38 $\frac{1}{2}$	33
1853	1,111,570,370	9.85	58 $\frac{3}{4}$	53 $\frac{1}{4}$	49
1854	987,833,106	9.47	49	43	37
1855	1,008,424,601	8.74	46 $\frac{1}{4}$	37 $\frac{3}{4}$	33 $\frac{1}{4}$

It needs but a momentary glance at this table to find in it the solution of the difficulties presented by the tables preceding it. We see that the prices of wool sympathize with—we might say are governed by—those of cotton. This is the ruling power, and we think it will soon be found all-potential when cotton begins to assume its former magnitude in production.

The country must, under all circumstances, have a certain amount of woollen goods. The greater comfort of woollen over cotton clothing, and its superior adaptation to health in all seasons, even the warmest, will create a large consumption of wool. This consumption will increase as our woollen manufactories embrace a greater variety of production. The cheap and brilliant colors through the aniline dyes obtained from the distillation of coal will make the finer and lighter woollen goods favorites for ladies' wear, and our country should make its own broadcloths.

The question involved in a protective duty on wool is, whether the consumption of our country shall be furnished *entirely* by the wool grown in it, or in part by foreign wools and woollens. If the former, the duty must be a high one. This is seen in the experience of the country under former protective tariffs. If not so protected, then between the domestic competition from cotton, and the foreign one from foreign wools and woollens, between these upper and nether millstones, the wool interest, on the return of the accustomed cotton production, will be ground to atoms, as heretofore.

THE TRANSPORTATION QUESTION.

In the last monthly report we drew attention to the condition of the English markets, to the enormous imports, and the continued decrease of exports of produce, on account of the want of English demand for them, except cotton, at prevailing prices. Our general tables, showing the returns to this department of the prices in the several States, exhibited the great decrease in them between January 1, 1865, and January 1, 1866. Yet, in the face of these decreased prices, the market for western breadstuffs is almost nominal; but little of the great crops of the west seem to be really wanted. We also showed that under these conditions of our import and export trade, our specie was rapidly leaving this country, when a return to specie payments demanded its retention, and that our national bonds, instead of continuing to be a domestic debt, retaining the interest among us, was fast becoming a foreign debt, which would hereafter act as a constant drain of our specie.

We then called public attention to these facts chiefly for the purpose of awakening an interest in what western writers call "the transportation question," the absolute necessity of providing for cheapened freights between the western States and the eastern seaboard. Corn, now selling in New York at eighty cents per bushel, is used as fuel in Illinois. Throughout the west meetings and conventions are held asking Congress for aid in constructing a ship-canal around the Falls of Niagara, in order that western products may have a cheap and adequate water transportation to the seaboard by the St. Lawrence, as well as by the New York canals, and that this competition might serve to reduce the freights by railroads, which are alleged to be oppressive exactions.

It is not our purpose to examine how far these complaints against the railroads are just. It is sufficient for us to know that the vast products of the west demand greater transportation, and it is only by providing it that monopolies can be restrained.

The leading work for which the aid of the general government is invoked is the canal connecting Lake Erie and Lake Ontario. The latter lake approaches much nearer to the Hudson river than the former, and would bring that river and its tributary railroads in direct competition with the New York Central railroad and canal. This competition would effect much in removing the monopoly now complained of. Besides this great benefit in cheapening the agricultural products to the east, and enhancing their price in the west, the construction of the canal around the Falls of Niagara would open the way to a complete ship transportation of western products from Chicago to Liverpool. The cost of this canal is estimated at from six to eight million dollars, a sum great in the present indebted condition of the country, but not to be so regarded in view of the national benefits it would accomplish.

But besides the work proposed, it is suggested that the excessive charges for freights should be prevented by law. We have little confidence in such legislation, for restraining acts of this character are soon got rid of by subsequent legislation, or by evasion. But Congress does owe it to our vast inland commerce that it should be protected from a monopoly now oppressing both travel and transportation. We refer to such as exist in New Jersey, where by force of State legislation competing roads are forbidden to be made, and thus a monopoly is created.

In our judgment, the construction of all kinds of transportation facilities should be as free as the building of a manufactory, or a steam or sailing vessel. Neither New Jersey nor any other State has a right to say to its own or any other portion of the people of the United States, you shall not construct a railway or a canal within the limits of this State unless by special permission granted you by a legislative charter. No State has a right to thus control the commerce of

the country. It is given to the Congress of the United States "to regulate commerce," and that power and the condition of the country demand of it to abandon the granting of special charters, and to declare, by a general law, that companies may organize under it for the purpose of constructing any railway or other channel of travel or commerce, with no other limitation than properly securing the owners of the real estate over which the work may be made, and for such materials as may be necessary in its construction.

The State of Indiana has set a just and noble precedent for such legislation. Holding the way around Lake Michigan, it could have done as New Jersey did—lay conditions upon the right of way to Chicago, or to other points in Illinois, that would have created a revenue for that State which would, in a great degree, have freed its people from taxation for State purposes. But after the fullest discussion of this subject that State regarded the highways of commerce as free under the spirit and letter of our federal Union; that Ohio could not lay under contribution the products of Indiana; that Indiana could not make such a claim upon those of Illinois, nor upon the general commerce eastward and westward that might pass over its territory. And so thinking, it passed such an act as we contend should now be passed by Congress. It authorized the formation of companies to construct roads of all kinds wherever these companies chose to run them.

This action was worthy the west and of that State; not less honorable to its sense of right than just to the relation of the different States.

The granting of special charters belongs to a past age—to the period of Elizabeth, when the common welfare was made a monopoly to a few. *Then* monopolies were given to court favorites, against the general welfare; *now* to a few capitalists, at the expense of the common industry and against national rights.

AGRICULTURAL COLLEGES.

Two of the gravest errors have marked the course pursued by the friends of education in our country; one, however, belonging more to the cities than the other. These errors are, to scatter our educational resources by the establishment of too many institutions, and to expend too much in buildings. The latter is done mostly in cities, where the improvement of the city is more a purpose than the advancement of education.

Mr. Justus Liebig, in a conversation with Mr. Klippart, during his recent visit to Europe, referred to this evil, and what he said is thus stated by that gentleman:

"He said, among other things, You don't want much land; a few hundred acres is all-sufficient for all manner of experiments; and, you must allow me to repeat, you don't want to teach a specific system of model farming, for many reasons: first, not one student, perhaps, can get a farm precisely like your model farm; he may not be able to get so much grass land, or so much upland, or he may be unable to have farm buildings precisely like the model ones. Then, what good does your model do when nobody can copy it? Now, when you get home, pray do not misrepresent this idea. I want you to make experiments; not simply to show what can be done, but make experiments to show what can be done profitably, and what may be done by any intelligent farmer. Of course you cannot expect to accomplish much for the present generation of farmers;

but these seeds you sow will be reaped by the next and future generations. In Ohio you do not want to build a palace for an agricultural school. In America you spend too much money in putting up your educational buildings, and then starve your professors. I learn that you put up a very grand building in your city of Columbus, called the Starling Medical College; I have a picture of it. I am told it cost some \$70,000 or \$75,000; and now you are starving the professors in it. You did the same in Cleveland and Cincinnati. Then, I am told, you built two universities in Ohio, and now the professors can barely live on the salary you pay. The consequence is that these schools, colleges, or universities must run down. There is no place in the whole world where knowledge can make so much money as in America; therefore, your best men will not become teachers or professors, simply because they can make more money out of something else; and they naturally apply their talent and ability where it pays best. No man will engage in an educational course of life, for life, on a salary of \$1,200 or \$1,500 a year, when, by applying the same ability in some other pursuit, he can make \$4,000 or \$5,000 a year. Hence you have no first-class professors in America; but you have instead first-class business men, first-class mechanics, and managers of large and colossal establishments."

CROPS OF 1865.

TABLE No. 1,

Showing the amount in bushels, &c., of each principal crop of the several States named, the yield per acre, the total acreage, the average price in each State, and the value of each crop, for 1865.

Products.	Amount of crop of 1865.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
MAINE.					
Indian corn bushels..	1,692,020	34	49,765	\$1 21	\$2,037,344
Wheat	175,591	13	13,507	2 21 $\frac{1}{2}$	358,934
Rye	135,042	14 $\frac{1}{2}$	9,310 $\frac{3}{4}$	1 33 $\frac{1}{4}$	180,281
Oats	2,348,342	26	90,321	61	1,432,489
Barley	735,266	20	36,763 $\frac{1}{2}$	96	705,855
Buckwheat	356,684	20 $\frac{1}{2}$	17,399 $\frac{1}{2}$	90	321,016
Potatoes	5,391,864	138 $\frac{1}{2}$	39,072	57	3,073,362
Tobacco	7,280	750	9 $\frac{1}{2}$	22	1,601
Hay	1,429,511	1	1,429,511	11 81	16,882,525
Total			1,685,699		25,023,407
NEW HAMPSHIRE.					
Indian corn bushels..	1,468,090	33	44,487 $\frac{1}{2}$	1 21 $\frac{1}{2}$	1,782,729
Wheat	291,098	15 $\frac{1}{2}$	19,406 $\frac{1}{2}$	2 60	756,855
Rye	146,872	16	9,179 $\frac{1}{2}$	1 28 $\frac{1}{2}$	190,731
Oats	1,346,380	29 $\frac{1}{2}$	46,427	68	915,538
Barley	101,979	21 $\frac{1}{2}$	4,856 $\frac{1}{2}$	1 11 $\frac{1}{2}$	113,551
Buckwheat	74,956	10 $\frac{1}{2}$	4,684 $\frac{1}{2}$	1 01 $\frac{1}{4}$	76,268
Potatoes	3,183,500	120 $\frac{1}{2}$	26,529	68	2,164,780
Tobacco	57,600	800	72	22	12,672
Hay	793,327	1	793,327	14 70	11,663,907
Total			948,969		17,677,031
VERMONT.					
Indian corn bushels..	1,796,356	43 $\frac{1}{2}$	40,826 $\frac{3}{4}$	1 15 $\frac{1}{2}$	2,070,300
Wheat	558,811	18 $\frac{1}{2}$	31,045	2 18	1,218,208
Rye	151,748	16	9,484 $\frac{1}{2}$	1 28 $\frac{1}{2}$	194,426
Oats	4,213,926	39	108,049 $\frac{1}{2}$	53 $\frac{1}{2}$	2,254,450
Barley	10,375	28 $\frac{1}{2}$	3,461	1 08 $\frac{1}{4}$	109,157
Buckwheat	210,516	26	8,097	75	157,887
Potatoes	5,526,089	164	33,635	42	2,320,957
Tobacco	59,000	750	79	20	11,800
Hay	991,814	1 $\frac{1}{2}$	826,512	11 50	11,405,861
Total			1,061,189		19,743,046
MASSACHUSETTS.					
Indian corn bushels..	2,363,245	33 $\frac{1}{2}$	70,897 $\frac{1}{2}$	1 10 $\frac{1}{2}$	2,611,385
Wheat	107,465	17 $\frac{1}{2}$	6,097	2 21 $\frac{1}{2}$	237,766
Rye	413,957	14 $\frac{1}{2}$	28,065	1 29 $\frac{1}{2}$	536,073
Oats	1,194,827	26	45,955	72	860,275
Barley	144,598	19 $\frac{1}{2}$	7,415 $\frac{1}{2}$	1 21	174,963
Buckwheat	96,176	18 $\frac{1}{2}$	5,278 $\frac{1}{2}$	1 01 $\frac{1}{4}$	97,377
Potatoes	3,046,391	104 $\frac{1}{2}$	29,013 $\frac{1}{2}$	73 $\frac{1}{2}$	2,239,096
Tobacco	5,746,000	1,200	4,788 $\frac{1}{2}$	22 $\frac{1}{2}$	1,292,850
Hay	844,173	1 $\frac{1}{2}$	633,130	21 00	17,727,633
Total			830,629		25,777,418

Table No. 1—Continued.

Products.	Amount of crop of 1865.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
RHODE ISLAND.					
Indian corn.....bushels..	497,918	31½	15,809	1 22½	\$609,949
Wheat.....".....	1,413	17½	4,107	2 37½	170,717
Rye.....".....	31,707	18	1,768	1 22½	38,841
Oats.....".....	140,202	32½	4,314	67½	94,636
Barley.....".....	31,821	26½	1,201	1 37½	43,754
Buckwheat.....".....	3,097	107½	4,913	82½	433,724
Potatoes.....".....	525,727	1,000	1½	30	444
Tobacco.....pounds..	1,479	1½	57,166	22 50	1,447,020
Hay.....tons.....	64,312	1½			
Total.....			85,172		2,668,368
CONNECTICUT.					
Indian corn.....bushels..	2,265,818	31½	73,091	1 22½	2,775,627
Wheat.....".....	71,881	17½	4,107	2 37½	170,717
Rye.....".....	776,030	14	55,431	1 31½	1,018,539
Oats.....".....	2,363,317	35¾	65,648	66¾	1,575,543
Barley.....".....	19,200	23½	817	1 37	26,304
Buckwheat.....".....	300,545	16¼	18,784	1 07½	323,085
Potatoes.....".....	1,558,177	121¼	12,051½	76¼	1,188,110
Tobacco.....pounds..	8,167,681	1,350	6,050	30	2,450,304
Hay.....tons.....	596,191	1½	476,953	23 50	14,010,488
Total.....			662,932		23,538,717
NEW YORK.					
Indian corn.....bushels..	25,344,325	24	1,056,013½	95	24,077,109
Wheat.....".....	12,556,406	15½	837,094	2 08½	26,180,096
Rye.....".....	5,309,874	15½	353,991	1 02	5,416,071
Oats.....".....	48,675,090	34¾	1,533,574	51½	25,067,671
Barley.....".....	4,329,406	22½	192,245½	1 02	4,415,994
Buckwheat.....".....	5,535,553	18	307,531	95	5,258,775
Potatoes.....".....	30,249,200	107	282,703	62	18,754,504
Tobacco.....pounds..	11,836,607	1,091	10,849½	14	1,657,125
Hay.....tons.....	5,288,352	1½	3,777,394	12 33	65,205,380
Total.....			8,351,395		176,032,725
NEW JERSEY.					
Indian corn.....bushels..	9,733,901	42½	229,147	85½	8,322,485
Wheat.....".....	1,265,690	12½	102,071	2 32½	2,945,793
Rye.....".....	1,246,458	13½	92,330	1 04	1,296,316
Oats.....".....	6,309,211	32	197,163	51½	3,249,244
Barley.....".....	27,167	22	1,235	1 12	30,427
Buckwheat.....".....	783,069	15¾	49,719	1 32½	1,035,608
Potatoes.....".....	4,122,151	90½	45,549	87	3,586,270
Tobacco.....pounds..	170,768	1,000	170¾	20	34,153
Hay.....tons.....	461,958	1¾	263,976	13 89	6,416,596
Total.....			981,361		26,916,892

Table No. 1—Continued.

Products.	Amount of crop of 1865.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
PENNSYLVANIA.					
Indian corn.....bushels..	35,477,106	40	886,928	80	28,838,168
Wheat.....“ ..	11,688,511	12 $\frac{1}{2}$	958,075	2 05 $\frac{3}{8}$	23,992,704
Rye.....“ ..	6,569,690	13 $\frac{1}{2}$	486,644	1 37 $\frac{3}{8}$	9,034,271
Oats.....“ ..	46,571,661	34	1,369,754	48	22,354,397
Barley.....“ ..	603,470	22 $\frac{1}{2}$	67,423	96 $\frac{3}{8}$	583,354
Buckwheat.....“ ..	7,199,058	16 $\frac{1}{2}$	436,307	1 03	7,415,030
Potatoes.....“ ..	12,028,353	75 $\frac{1}{2}$	159,842	98 $\frac{1}{8}$	11,787,786
Tobacco.....pounds..	5,512,096	977	5,641	09 $\frac{3}{11}$	511,121
Hay.....tons.....	2,463,545	1 $\frac{3}{8}$	1,542,216	11 23	27,665,610
Total.....			5,912,830		132,682,441
MARYLAND.					
Indian corn.....bushels..	14,308,739	31 $\frac{1}{10}$	475,373 $\frac{1}{2}$	76 $\frac{1}{10}$	10,888,950
Wheat.....“ ..	5,479,635	9 $\frac{5}{11}$	579,576	2 06 $\frac{1}{2}$	11,315,446
Rye.....“ ..	476,770	10 $\frac{2}{3}$	45,692	85 $\frac{1}{2}$	409,035
Oats.....“ ..	6,135,779	24 $\frac{1}{3}$	255,657	43 $\frac{2}{5}$	2,644,520
Barley.....“ ..	26,591	27 $\frac{1}{4}$	967	97 $\frac{1}{4}$	25,926
Buckwheat.....“ ..	164,048	22 $\frac{1}{5}$	7,411	97	159,127
Potatoes.....“ ..	1,274,393	65 $\frac{1}{2}$	19,456	84	1,070,490
Tobacco.....pounds..	29,963,672	690 $\frac{3}{8}$	43,425 $\frac{3}{8}$	11 $\frac{1}{2}$	3,445,922
Hay.....tons.....	181,341	1 $\frac{1}{2}$	120,894	16 42 $\frac{1}{2}$	2,978,525
Total.....			1,548,452		32,937,941
DELAWARE.					
Indian corn.....bushels..	3,892,337	16 $\frac{1}{2}$	235,596	75	2,919,253
Wheat.....“ ..	527,477	7 $\frac{1}{2}$	70,330	2 00	1,054,954
Rye.....“ ..	37,038			1 00	37,038
Oats.....“ ..	1,884,437	12	157,036	47	885,685
Barley.....“ ..	4,595	7	656 $\frac{2}{7}$	95	4,365
Buckwheat.....“ ..	15,641	10 $\frac{1}{3}$	1,490	1 00	15,641
Potatoes.....“ ..	360,294	112 $\frac{1}{2}$	3,217	77 $\frac{1}{2}$	277,426
Tobacco.....pounds..	7,029	500	14	12	8,435
Hay.....tons.....	29,800	1 $\frac{1}{4}$	23,840	17 00	506,690
Total.....			492,179		5,709,397
KENTUCKY.					
Indian corn.....bushels..	57,512,833	34	1,691,554	43 $\frac{1}{8}$	24,922,247
Wheat.....“ ..	2,788,184	7 $\frac{1}{4}$	384,577	1 70 $\frac{1}{4}$	4,753,854
Rye.....“ ..	476,453	9	52,939	93 $\frac{3}{8}$	444,689
Oats.....“ ..	4,824,421	24 $\frac{1}{3}$	198,264	46	2,219,234
Barley.....“ ..	161,778	21 $\frac{1}{4}$	7,703	1 09	176,338
Buckwheat.....“ ..	13,478	19 $\frac{1}{4}$	682	1 50 $\frac{5}{8}$	20,301
Potatoes.....“ ..	1,395,468	59	23,652	90 $\frac{3}{8}$	1,265,224
Tobacco.....pounds..	54,108,646	736 $\frac{1}{2}$	73,517	12	6,493,037
Hay.....tons.....	127,301	1 $\frac{1}{10}$	90,929	12 10	1,540,342
Total.....			2,523,817		41,835,266

Table showing the amount in bushels, &c.—Continued.

Products.	Amount of crop of 1865.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
OHIO.					
Indian corn.....bushels..	94, 119, 644	41 $\frac{1}{2}$	2, 267, 943	\$0 44 $\frac{3}{4}$	\$41, 816, 012
Wheat.....“..	17, 601, 472	9 $\frac{1}{2}$	1, 852, 786 $\frac{1}{2}$	1 59 $\frac{1}{2}$	28, 112, 065
Rye.....“..	687, 350	12 $\frac{1}{2}$	54, 988	72 $\frac{1}{2}$	500, 391
Oats.....“..	18, 963, 608	31 $\frac{3}{8}$	598, 851	34 $\frac{1}{8}$	6, 579, 233
Barley.....“..	1, 559, 203	22 $\frac{7}{10}$	68, 687	89 $\frac{1}{2}$	1, 395, 487
Buckwheat.....“..	1, 332, 645	16	83, 290	91 $\frac{1}{8}$	1, 217, 149
Potatoes.....“..	4, 385, 087	83	52, 832	91 $\frac{1}{8}$	4, 026, 971
Tobacco.....pounds..	26, 116, 138	744	35, 102	9 $\frac{1}{10}$	2, 376, 568
Hay.....tons.....	2, 158, 021	1 $\frac{3}{8}$	1, 294, 942	8 00	17, 264, 168
Total.....			6, 309, 421		103, 288, 044
MICHIGAN.					
Indian corn.....bushels..	17, 520, 305	38 $\frac{1}{2}$	455, 073	60 $\frac{1}{2}$	10, 706, 850
Wheat.....“..	16, 378, 488	15 $\frac{3}{8}$	1, 045, 435	1 65	27, 024, 505
Rye.....“..	413, 150	14 $\frac{1}{2}$	31, 941	83	342, 915
Oats.....“..	7, 275, 331	37 $\frac{3}{4}$	192, 724	40	2, 910, 132
Barley.....“..	391, 562	22 $\frac{3}{8}$	17, 275	96 $\frac{1}{2}$	377, 847
Buckwheat.....“..	1, 136, 365	20	56, 818	88	1, 000, 001
Potatoes.....“..	5, 475, 324	145 $\frac{3}{4}$	37, 760	37 $\frac{1}{2}$	2, 053, 246
Tobacco.....pounds..	273, 320	1, 300	2, 103	15 $\frac{1}{2}$	42, 364
Hay.....tons.....	1, 231, 272	1 $\frac{1}{2}$	684, 040	12 16 $\frac{3}{8}$	14, 980, 476
Total.....			1, 523, 169		59, 438, 336
INDIANA.					
Indian corn.....bushels..	116, 069, 316	40 $\frac{2}{5}$	2, 873, 003	38 $\frac{7}{10}$	44, 918, 823
Wheat.....“..	13, 020, 803	8 $\frac{1}{2}$	1, 531, 859	1 35 $\frac{1}{2}$	17, 643, 188
Rye.....“..	371, 123	12 $\frac{1}{2}$	30, 420	80 $\frac{1}{2}$	298, 135
Oats.....“..	8, 062, 351	29 $\frac{2}{5}$	272, 376	35 $\frac{9}{10}$	2, 894, 384
Barley.....“..	350, 504	22 $\frac{1}{2}$	15, 779	98 $\frac{1}{2}$	345, 246
Buckwheat.....“..	299, 388	18	16, 633	87 $\frac{3}{8}$	262, 426
Potatoes.....“..	3, 527, 314	84	41, 992	78	2, 751, 305
Tobacco.....pounds..	8, 547, 889	639 $\frac{1}{2}$	13, 376	10 $\frac{1}{2}$	869, 035
Hay.....tons.....	1, 251, 646	1 $\frac{3}{8}$	750, 988	9 40	11, 765, 472
Total.....			5, 546, 426		81, 748, 014
ILLINOIS.					
Indian corn.....bushels..	177, 095, 852	35 $\frac{1}{2}$	5, 023, 996	29 $\frac{1}{2}$	51, 800, 536
Wheat.....“..	25, 266, 745	11	2, 296, 977	1 09	27, 541, 732
Rye.....“..	833, 069	16 $\frac{1}{2}$	51, 004	49 $\frac{1}{2}$	410, 977
Oats.....“..	28, 088, 197	35	802, 520	24	6, 741, 167
Barley.....“..	1, 058, 931	21	50, 425	56 $\frac{3}{4}$	600, 943
Buckwheat.....“..	287, 379	17 $\frac{1}{2}$	16, 422	89 $\frac{1}{2}$	258, 066
Potatoes.....“..	5, 864, 408	117	50, 124	47 $\frac{1}{2}$	2, 770, 933
Tobacco.....pounds..	18, 867, 722	777	24, 283	10 $\frac{7}{16}$	1, 969, 316
Hay.....tons.....	2, 600, 070	1 $\frac{1}{2}$	1, 733, 380	9 30	24, 180, 651
Total.....			10, 049, 131		116, 274, 321

Table showing the amount in bushels, &c.—Continued.

Products.	Amount of crop of 1865.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
MISSOURI.					
Indian corn bushels..	52,021,715	39	1,333,890	\$0 52	\$27,051,292
Wheat..... " ..	2,953,363	12 $\frac{3}{4}$	231,636	1 62 $\frac{3}{4}$	4,824,336
Rye..... " ..	218,529	16 $\frac{3}{8}$	13,111	89 $\frac{3}{4}$	196,229
Oats..... " ..	2,501,013	26 $\frac{3}{8}$	90,534	45 $\frac{3}{8}$	1,146,297
Barley..... " ..	148,855	23 $\frac{1}{4}$	6,402	117 $\frac{3}{11}$	174,566
Buckwheat..... " ..	72,461	20 $\frac{1}{4}$	3,535	89	64,490
Potatoes..... " ..	1,139,057	122 $\frac{2}{7}$	9,347	62 $\frac{1}{8}$	720,011
Tobacco..... pounds..	15,237,982	940	16,211	13 $\frac{3}{8}$	2,038,080
Hay..... tons	519,479	1 $\frac{3}{4}$	296,702	12 33	6,301,276
Total.....	-----	-----	2,001,368	-----	42,516,577
WISCONSIN.					
Indian corn bushels..	13,449,405	41 $\frac{1}{2}$	324,084	46	6,209,726
Wheat..... " ..	20,307,920	16 $\frac{1}{5}$	1,208,805	1 09	22,135,632
Rye..... " ..	945,400	17 $\frac{1}{4}$	54,806	63	595,602
Oats..... " ..	18,466,758	40 $\frac{3}{8}$	454,100	28	5,170,692
Barley..... " ..	843,649	26 $\frac{1}{2}$	31,836	70 $\frac{7}{10}$	596,455
Buckwheat..... " ..	85,466	20	4,273	69	58,972
Potatoes..... " ..	4,925,341	141 $\frac{3}{8}$	34,931	36	1,773,123
Tobacco..... pounds..	162,891	1,300	125 $\frac{1}{4}$	12	19,547
Hay..... tons	1,066,182	1 $\frac{1}{2}$	710,788	10 14	10,811,085
Total.....	-----	-----	2,823,748	-----	47,370,834
IOWA.					
Indian corn bushels..	62,997,813	42 $\frac{3}{8}$	1,478,822	30	18,899,344
Wheat..... " ..	13,698,542	14 $\frac{3}{8}$	938,229	1 00 $\frac{1}{4}$	13,702,788
Rye..... " ..	119,333	18 $\frac{1}{8}$	6,629	59	70,406
Oats..... " ..	12,007,380	38 $\frac{1}{7}$	315,984	26 $\frac{1}{5}$	3,145,934
Barley..... " ..	561,068	25 $\frac{1}{7}$	20,403	56 $\frac{1}{2}$	317,003
Buckwheat..... " ..	298,646	18 $\frac{3}{8}$	15,999	82	244,890
Potatoes..... " ..	3,360,641	120 $\frac{1}{8}$	28,005 $\frac{1}{8}$	43	1,445,176
Tobacco..... pounds..	419,811	883 $\frac{1}{8}$	475 $\frac{1}{8}$	19 $\frac{1}{2}$	81,863
Hay..... tons	1,018,455	1 $\frac{3}{4}$	581,974	7 35 $\frac{1}{2}$	7,590,737
Total.....	-----	-----	3,386,520	-----	45,498,141
MINNESOTA.					
Indian corn bushels..	5,577,795	38	146,784	51 $\frac{1}{2}$	2,872,564
Wheat..... " ..	3,425,467	20 $\frac{3}{8}$	171,273	80	2,740,374
Rye..... " ..	178,171	22 $\frac{1}{8}$	8,099	65	125,811
Oats..... " ..	3,388,848	41 $\frac{1}{2}$	81,659	39	1,321,651
Barley..... " ..	178,310	29	6,149	55	98,071
Buckwheat..... " ..	35,414	23	1,540	80	28,331
Potatoes..... " ..	3,244,711	197	16,420	35	1,136,649
Tobacco..... pounds..	30,029	1,000	30	20	6,005
Hay..... tons	274,217	1 $\frac{1}{10}$	161,304	8 59	2,355,524
Total.....	-----	-----	593,258	-----	10,684,980

Table showing the amount in bushels, &c.—Continued.

Products.	Amount of crop of 1885.	Average yield per acre.	Number of acres in each crop.	Value per bushel or pound.	Total valuation.
KANSAS.					
Indian corn bushels..	6,729,236	41 $\frac{1}{2}$	163,463	\$0 53	\$3,566,495
Wheat..... " ..	191,519	15 $\frac{3}{4}$	12,768	1 77	338,989
Rye..... " ..	4,061	23	176 $\frac{1}{2}$	1 09	4,426
Oats..... " ..	155,290	34 $\frac{1}{2}$	4,567 $\frac{1}{2}$	66 $\frac{1}{4}$	102,880
Barley..... " ..	6,661	28 $\frac{1}{2}$	235	1 10 $\frac{3}{4}$	7,332
Buckwheat..... " ..	24,288	25 $\frac{1}{2}$	962	1 52 $\frac{1}{2}$	37,039
Potatoes..... " ..	276,720	119	2,325	97	268,419
Tobacco..... pounds..	22,043	533	41 $\frac{1}{4}$	25	5,511
Hay..... tons ..	118,348	2	59,174	8 00	946,784
Total.....			243,712		5,347,875
NEBRASKA TERRITORY.					
Indian corn bushels..	2,494,084	46 $\frac{1}{2}$	53,636	59	4,471,510
Wheat..... " ..	166,348	18	9,241 $\frac{1}{2}$	1 49	247,859
Rye..... " ..	2,080	18	116	1 00	2,080
Oats..... " ..	335,926	38 $\frac{3}{8}$	8,614	53 $\frac{1}{4}$	179,262
Barley..... " ..	6,297	26 $\frac{5}{8}$	242	1 16 $\frac{1}{2}$	7,356
Buckwheat..... " ..	6,146	26 $\frac{3}{8}$	230 $\frac{1}{2}$	1 37 $\frac{1}{2}$	8,440
Potatoes..... " ..	171,885	138 $\frac{3}{8}$	1,246	64 $\frac{1}{2}$	110,866
Tobacco..... pounds..	1,270	500	2 $\frac{1}{2}$	20 $\frac{1}{2}$	260
Hay..... tons ..	29,425	2	14,712 $\frac{1}{2}$	5 64	165,957
Total.....			88,041		5,193,590

TABLE NO. 2.

Summary for each crop, showing the amount, the number of acres, and the value of each crop, for 1865.

INDIAN CORN.

States.	Bushels.	Acres.	Value.
Maine.....	1,692,020	49,765	\$2,037,344
New Hampshire.....	1,468,090	44,487	1,782,729
Vermont.....	1,796,356	40,826	2,070,300
Massachusetts.....	2,363,245	70,897	2,611,355
Rhode Island.....	497,918	15,809	609,949
Connecticut.....	2,265,818	73,091	2,775,627
New York.....	25,344,325	1,056,013	24,077,109
New Jersey.....	9,733,901	229,147	8,322,455
Pennsylvania.....	35,477,106	886,928	28,838,168
Maryland.....	14,308,739	475,373	10,888,950
Delaware.....	3,892,337	235,596	2,919,253
Kentucky.....	57,512,833	1,691,554	24,922,247
Ohio.....	94,119,644	2,267,943	41,816,012
Michigan.....	17,520,305	455,073	10,706,850
Indiana.....	116,069,316	2,873,003	44,918,823
Illinois.....	177,095,852	5,023,996	51,800,536
Missouri.....	52,021,715	1,333,890	27,051,292
Wisconsin.....	13,449,405	324,084	6,209,726
Iowa.....	62,997,813	1,478,822	18,899,344
Minnesota.....	5,577,795	146,784	2,872,564
Kansas.....	6,729,236	163,463	3,566,495
Nebraska Territory.....	2,494,084	53,636	4,471,510
Total.....	704,427,853	18,990,180	324,162,698

WHEAT.

Maine.....	175,591	13,507	\$338,934
New Hampshire.....	291,098	19,406	756,855
Vermont.....	558,811	31,045	1,218,208
Massachusetts.....	107,465	6,097	237,766
Rhode Island.....	1,413	.....	.....
Connecticut.....	71,881	4,107	170,717
New York.....	12,556,406	837,094	26,180,096
New Jersey.....	1,265,690	102,071	2,945,793
Pennsylvania.....	11,638,511	958,075	23,992,704
Maryland.....	5,479,635	579,576	11,315,446
Delaware.....	527,477	70,330	1,054,954
Kentucky.....	2,788,184	384,577	4,753,854
Ohio.....	17,601,472	1,852,786	28,112,065
Michigan.....	16,378,488	1,045,435	27,024,505
Indiana.....	13,020,803	1,531,859	17,643,188
Illinois.....	25,266,745	2,296,977	27,541,732
Missouri.....	2,953,363	231,636	4,824,336
Wisconsin.....	20,307,920	1,208,805	22,135,632
Iowa.....	13,698,542	938,229	13,702,788
Minnesota.....	3,425,467	171,273	2,740,374
Kansas.....	191,519	12,768	338,989
Nebraska Territory.....	166,348	9,241	247,859
Total.....	148,522,827	12,304,894	217,330,795

Table No. 2—Continued.

RYE.

States.	Bushels.	Acres.	Value.
Maine	135, 042	9, 310	\$180, 281
New Hampshire	146, 872	9, 179	190, 731
Vermont	151, 748	9, 484	194, 426
Massachusetts	413, 957	28, 065	536, 073
Rhode Island	31, 707	1, 768	38, 841
Connecticut	776, 030	55, 431	1, 018, 539
New York	5, 309, 874	353, 991	5, 416, 071
New Jersey	1, 246, 458	92, 330	1, 296, 316
Pennsylvania	6, 569, 690	486, 644	9, 034, 271
Maryland	476, 770	45, 692	409, 035
Delaware	37, 038	-----	37, 038
Kentucky	476, 453	52, 939	444, 689
Ohio	687, 350	54, 988	500, 391
Michigan	413, 150	31, 941	342, 915
Indiana	371, 123	30, 420	298, 135
Illinois	833, 069	51, 004	410, 977
Missouri	218, 529	13, 111	196, 229
Wisconsin	945, 400	54, 806	595, 602
Iowa	119, 333	6, 629	70, 406
Minnesota	178, 171	8, 099	125, 811
Kansas	4, 061	176	4, 426
Nebraska Territory	2, 080	116	2, 080
Total	19, 543, 905	1, 396, 123	21, 343, 283

OATS.

Maine	2, 348, 342	90, 321	\$1, 432, 489
New Hampshire	1, 346, 380	46, 427	915, 538
Vermont	4, 213, 926	108, 049	2, 254, 450
Massachusetts	1, 194, 827	45, 955	860, 275
Rhode Island	140, 202	4, 314	94, 636
Connecticut	2, 363, 317	65, 648	1, 575, 543
New York	48, 675, 090	1, 533, 574	25, 067, 671
New Jersey	6, 309, 211	197, 163	3, 249, 244
Pennsylvania	46, 571, 661	1, 369, 754	22, 354, 397
Maryland	6, 135, 779	255, 657	2, 644, 520
Delaware	1, 884, 437	157, 036	885, 685
Kentucky	4, 824, 421	198, 264	2, 219, 234
Ohio	18, 963, 608	598, 851	6, 579, 233
Michigan	7, 275, 331	192, 724	2, 910, 132
Indiana	8, 062, 351	272, 376	2, 894, 384
Illinois	28, 088, 197	802, 520	6, 741, 167
Missouri	2, 501, 013	90, 534	1, 146, 297
Wisconsin	18, 466, 758	454, 100	5, 170, 692
Iowa	12, 007, 380	315, 984	3, 145, 934
Minnesota	3, 388, 848	81, 659	1, 321, 651
Kansas	155, 290	4, 567	102, 880
Nebraska Territory	335, 926	8, 614	179, 262
Total	225, 252, 295	6, 894, 091	93, 745, 314

Table No. 2—Continued.

BARLEY.

States.	Bushels.	Acres.	Value.
Maine.....	735,266	36,763	\$705,855
New Hampshire.....	101,979	4,856	113,551
Vermont.....	100,375	3,461	109,157
Massachusetts.....	144,598	7,415	174,963
Rhode Island.....	31,821	1,201	43,754
Connecticut.....	19,200	817	26,304
New York.....	4,329,406	192,245	4,415,994
New Jersey.....	27,167	1,235	30,427
Pennsylvania.....	603,470	67,423	583,354
Maryland.....	26,591	967	25,926
Delaware.....	4,595	656	4,365
Kentucky.....	161,778	7,703	176,338
Ohio.....	1,559,203	68,687	1,395,487
Michigan.....	391,562	17,275	377,847
Indiana.....	350,504	15,779	345,246
Illinois.....	1,058,931	50,425	600,943
Missouri.....	148,855	6,402	174,566
Wisconsin.....	843,649	31,836	596,455
Iowa.....	561,068	20,403	317,003
Minnesota.....	178,310	6,149	98,071
Kansas.....	6,661	235	7,332
Nebraska Territory.....	6,297	242	7,356
Total.....	11,391,286	542,175	10,330,294

BUCKWHEAT.

Maine.....	356,684	17,399	\$321,016
New Hampshire.....	74,956	4,684	76,268
Vermont.....	210,516	8,097	157,887
Massachusetts.....	96,176	5,278	97,377
Rhode Island.....	3,097	-----	3,406
Connecticut.....	300,545	18,784	323,085
New York.....	5,535,553	307,531	5,258,775
New Jersey.....	783,069	49,719	1,635,608
Pennsylvania.....	7,199,658	436,307	7,415,030
Maryland.....	164,048	7,411	159,127
Delaware.....	15,641	1,490	15,641
Kentucky.....	13,478	682	20,301
Ohio.....	1,332,645	83,290	1,217,149
Michigan.....	1,136,365	56,818	1,000,001
Indiana.....	299,388	16,633	262,426
Illinois.....	287,379	16,422	258,066
Missouri.....	72,461	3,535	64,490
Wisconsin.....	85,466	4,273	58,972
Iowa.....	298,646	15,999	244,890
Minnesota.....	35,414	1,540	28,331
Kansas.....	24,288	962	37,039
Nebraska Territory.....	6,146	230	8,440
Total.....	18,331,019	1,057,084	18,063,325

Table No. 2—Continued.

POTATOES.

States.	Bushels.	Acres.	Value.
Maine.....	5,391,864	39,072	\$3,073,362
New Hampshire.....	3,183,500	26,529	2,164,780
Vermont.....	5,526,089	33,635	2,320,957
Massachusetts.....	3,046,391	29,013	2,239,096
Rhode Island.....	525,727	4,913	433,724
Connecticut.....	1,558,177	12,051	1,188,110
New York.....	30,249,200	282,703	18,754,504
New Jersey.....	4,122,151	45,549	3,586,270
Pennsylvania.....	12,028,353	159,842	11,787,786
Maryland.....	1,274,393	19,456	1,070,490
Delaware.....	360,294	3,217	277,426
Kentucky.....	1,395,468	23,652	1,265,224
Ohio.....	4,385,087	52,832	4,026,971
Michigan.....	5,475,324	37,760	2,053,246
Indiana.....	3,527,314	41,992	2,751,305
Illinois.....	5,864,408	50,124	2,770,933
Missouri.....	1,139,057	9,347	720,011
Wisconsin.....	4,925,341	34,931	1,773,123
Iowa.....	3,360,641	28,005	1,445,176
Minnesota.....	3,244,711	16,420	1,136,649
Kansas.....	276,720	2,325	268,419
Nebraska Territory.....	171,885	1,246	110,866
Total.....	101,032,095	964,614	65,218,428

TOBACCO.

	<i>Pounds.</i>		
Maine.....	7,280	9	\$1,601
New Hampshire.....	57,600	72	12,672
Vermont.....	59,000	79	11,800
Massachusetts.....	5,746,000	4,788	1,292,850
Rhode Island.....	1,479	1	444
Connecticut.....	8,167,681	6,050	2,450,304
New York.....	11,836,607	10,849	1,657,125
New Jersey.....	170,768	170	34,153
Pennsylvania.....	5,512,096	5,641	511,121
Maryland.....	29,963,672	43,425	3,445,922
Delaware.....	7,029	14	8,435
Kentucky.....	54,108,646	73,517	6,493,037
Ohio.....	26,116,138	35,102	2,376,568
Michigan.....	273,320	2,103	42,364
Indiana.....	8,547,889	13,376	869,035
Illinois.....	18,867,722	24,283	1,969,316
Missouri.....	15,237,932	16,211	2,038,080
Wisconsin.....	162,891	125	19,547
Iowa.....	419,811	475	81,863
Minnesota.....	30,029	30	6,005
Kansas.....	22,043	41	5,511
Nebraska Territory.....	1,270	2	260
Total.....	185,316,953	236,363	23,348,013

Table No. 2—Continued.

HAY

States.	Tons.	Acres.	Value.
Maine.....	1,429,511	1,429,511	\$16,882,525
New Hampshire.....	793,327	793,327	11,663,907
Vermont.....	991,814	826,512	11,405,861
Massachusetts.....	844,173	633,130	17,727,633
Rhode Island.....	64,312	57,166	1,447,020
Connecticut.....	596,191	476,953	14,010,488
New York.....	5,288,352	3,777,394	65,205,380
New Jersey.....	461,958	263,976	6,416,596
Pennsylvania.....	2,463,545	1,542,216	27,665,610
Maryland.....	181,341	120,894	2,978,525
Delaware.....	29,800	23,840	506,600
Kentucky.....	127,301	90,929	1,540,342
Ohio.....	2,158,021	1,294,942	17,264,168
Michigan.....	1,231,272	684,040	14,980,476
Indiana.....	1,251,646	750,988	11,765,472
Illinois.....	2,600,070	1,733,380	24,180,651
Missouri.....	519,479	296,702	6,301,276
Wisconsin.....	1,066,182	710,788	10,811,085
Iowa.....	1,018,455	581,974	7,590,737
Minnesota.....	274,217	161,304	2,355,524
Kansas.....	118,348	59,174	946,784
Nebraska Territory.....	29,425	14,712	165,957
Total.....	23,538,740	16,323,852	273,812,617

TABLE No. 3.

General summary showing the number of bushels, &c., of each crop, the number of acres of each, the value of each, and the bushels, acres, and value of all, and the increase and decrease of the same, for the years 1863, 1864, and 1865, and the comparison between 1864 and 1865.

AMOUNT OF CROPS.

	1863.	1864.	1865.	Increase in 1865.	Decrease in 1865.
Indian corn..bush.	397,839,212	530,451,403	704,427,853	173,976,450	.....
Wheat..... do..	173,677,928	160,695,823	148,522,827	.....	12,172,996
Rye..... do..	19,989,335	19,872,975	19,543,905	.....	329,070
Oats..... do..	170,129,864	175,990,194	225,252,295	49,262,101	.....
Barley..... do..	12,158,195	10,716,328	11,391,286	674,958	.....
Buckwheat..do..	15,786,122	18,700,540	18,331,019	.....	369,521
Potatoes.....do..	98,965,198	96,532,029	101,032,095	4,500,066	.....
Total....do..	888,546,554	1,012,959,292	1,228,501,280	228,413,575	12,871,587
Tobacco..pounds.	163,353,082	197,460,229	185,316,953	.....	12,143,276
Hay.....tons.	18,346,730	18,116,691	23,538,740	5,422,049	.....

Table No. 3—Continued.

ACREAGE OF CROPS.

Indian corn..acres..	15,312,441	17,438,752	18,990,180	1,551,428	.....
Wheat.....do..	13,098,936	13,158,089	12,304,894	.....	853,195
Rye.....do..	1,439,607	1,410,983	1,396,123	.....	14,860
Oats.....do..	6,686,174	6,461,750	6,894,091	432,341	.....
Barley.....do..	557,299	540,317	542,175	1,858	.....
Buckwheat..do..	1,054,060	1,051,700	1,057,084	5,384	.....
Potatoes.....do..	1,129,804	902,295	964,614	62,319	.....
Tobacco.....do..	216,423	239,826	236,363	.....	3,463
Hay.....do..	15,641,504	15,034,564	16,323,852	1,289,288	.....
Total....do..	55,136,248	56,238,276	58,709,376	3,342,618	871,518

VALUE OF CROPS.

Indian corn.....	\$278,089,609	\$527,718,183	\$324,168,698	.....	\$203,549,485
Wheat.....	197,992,837	294,315,119	217,330,195	.....	76,984,924
Rye.....	20,589,015	31,975,013	21,343,283	.....	10,631,730
Oats.....	105,990,905	139,381,247	93,745,314	.....	45,635,933
Barley.....	13,496,373	16,941,023	10,330,294	.....	6,610,729
Buckwheat.....	12,660,469	21,986,763	18,063,325	.....	3,923,438
Potatoes.....	55,024,650	77,184,043	65,218,428	.....	11,965,615
Tobacco.....	24,239,609	29,335,225	23,348,013	.....	5,987,212
Hay.....	247,680,855	365,707,074	273,812,617	.....	91,894,457
Total value ..	955,764,322	1,504,543,690	1,047,360,167	.....	457,183,523

Explanation and comment on the foregoing tables.

The first of these three tables exhibits the *amount*, the *yield* per acre, the *total acreage*, the *price* per bushel, &c., and the *total value*, of each of the leading crops for the States named. The *amount* is estimated from the returns of correspondents, which are reported by *tenths*, increase or decrease from the crop of the preceding year, and the *yield* per acre from their returns, and also the price per bushel, &c., in their counties. The average yield per acre and price per bushel for each State are ascertained from these county returns. The second table is made up from the first, in order to exhibit the *amount*, *acreage*, and *value* of each crop; and the third table is a *summary* from the second.

The *third* of these tables presents much for our reflection. Whilst it is a most condensed statement of the greatest agriculture the world has seen, it is not pretended to be precisely accurate. It aims but to show, in a general approximation to correctness, the vast results of American agricultural industry, and the fluctuations it meets each year.

In commenting on a similar exhibit a year ago we gave the following table, showing to what extent the rate of gold affected these crops. We give the table here in order to add to it the crop of 1865, and to show how this rate has affected its value:

Years.	Value of crops.	Rate of gold.	Gold increase per cent.	Inc'se value of crops per cent.
1862	\$706,887,495	131	-----	-----
1863	955,764,322	147	12	35
1864	1,440,415,435	227	54	50
1865	1,047,360,167	140	32½ decrease.	30.4 decrease.

The value of the crops of 1864 was \$1,504,543,690; but in this table the value of the crops of Kentucky was omitted, in order to compare the total value with the preceding year, which did not embrace that State. In the comparison now made between 1864 and 1865 the full value of 1864 is considered, as both these years embrace the crops of that State.

We assumed that the difference between twelve per cent. increase in gold value and thirty-five per cent. increase in the value of the crops for 1863, being twenty-three per cent., showed the increased value given to the crops by the war demand chiefly.

It will be seen, then, that great as is the decrease in the value of the crop of 1865, (although so much greater in amount than the crop of 1864,) yet it is still eight per cent. less than the decrease in the value of gold, although the war demand has ceased. This fact indicates that the fall in prices which commenced a few months ago will continue, unless some cause tending to raise the value of gold or to create a foreign demand for our crops will intervene. We see nothing that gives such an indication.

It is true that so long as manufactured goods and gold hold a price above the ordinary rates—those previous to the war—that prices of agricultural products cannot go down to what they were before the war. But as the raw material for manufactures increases, all prices will have a downward tendency.

Indeed, a great deal of the crops above estimated is without much present demand, and to more certainly approximate to the true value of the crops the prices will be again taken next summer. This is not ordinarily necessary, but great changes demand it.

It is the part of prudence with every farmer to “avoid entangling alliances” with debt for things consumed as “store goods.” Real estate, even in the cities—and much less in the country—has not been inflated as personal property, and hence the indicated coming changes will not affect it much. The table published in this report of the increased value of real and personal property in Cincinnati contains an instructive lesson, and serves as a guide to purchasers.

IMPORTS AND EXPORTS.

The more complete returns of imports and exports than published in the last monthly report are as follows, taken from the New York Journal of Commerce:

Imports at New York.

	1862.	1863.	1864.	1865.
Dry goods.....	\$56, 121, 227	\$67, 274, 547	\$71, 589, 752	\$91, 965, 138
General merchandise	117, 140, 813	118, 814, 219	144, 270, 386	130, 654, 000
Specie	1, 390, 277	1, 525, 811	2, 265, 622	2, 123, 281
Total imports.....	174, 652, 317	187, 614, 577	218, 125, 760	224, 742, 419

Exports at New York.

	1862.	1863.	1864.	1865.
Domestic produce	\$149, 179, 591	\$164, 249, 177	\$201, 855, 989	\$174, 247, 154
Foreign merchandise free.....	2, 853, 848	1, 037, 212	2, 142, 458	938, 735
Foreign merchandise dutiable..	4, 901, 383	5, 424, 579	17, 824, 095	3, 440, 410
Tot'l produce and merch'dise	156, 934, 822	170, 710, 968	221, 822, 542	178, 626, 299
Specie	59, 437, 021	49, 754, 066	50, 825, 621	30, 003, 683
Total exports	216, 371, 843	220, 465, 034	272, 648, 163	208, 629, 982

It will be remembered that the values of the *imports* are GOLD values as fixed on the merchandise at the ports from whence imported, and the values of the *exports* of produce and merchandise are CURRENCY values at the port of New York.

Referring to this fact the United States Economist of New York says:

"It may be of interest to estimate how far our exports have balanced our imports. Estimating the price of gold to have averaged one hundred and forty during the year, it would follow that the \$178,000,000 of exports of produce and merchandise would amount in specie to \$128,000,000, to which add the \$30,000,000 export of specie, and the total exports would be equal to \$158,000,000. It would thus appear that the exports have fallen sixty-six millions in gold below the imports.

"It is a fact never to be lost sight of in estimating our commercial relations with Europe that our importations during the war years have not been paid for, as formerly, with products, but to a very material extent with credits of one form or another. It may be reasonably estimated that since the commencement of the war Europe has received from us not less than \$350,000,000 of various kinds of securities, or possibly \$400,000,000. This creates against us an additional annual interest of about \$25,000,000, to be paid in products to Europe."

Since the publication of these reports first commenced, especially in 1863, when individual extravagance pervaded the whole country, and especially its city society, we again and again called attention to these excessive imports, foreseeing as we did the result now pointed to by the Economist.

If we regard the great necessity of husbanding our specie, in order to return to specie payments at as early a day as possible and under the most favorable circumstances, then the export of specie should be regarded as an evil not less than the export of our national securities. If so, then the foreign trade for 1865 will present the following balance :

Import of dry goods.....	\$91, 965, 138	
Import of general merchandise.....	130, 654, 000	
	<hr/>	\$222, 619, 138
Export of domestic produce and foreign merchandise.....	178, 626, 299	
Deduct forty per cent. discount to reduce it to gold value.....	51, 444, 374	
	<hr/>	127, 181, 925
		<hr/>
		95, 437, 213
Deduct gold imported		2, 123, 281
		<hr/>
		<hr/>
Balance of trade against the country.....		93, 313, 932
		<hr/>
		<hr/>

This balance has been paid as follows :

By specie exported from New York.....	\$30, 003, 683	
By specie exported from San Francisco to foreign ports.....	24, 724, 838	
	<hr/>	\$54, 728, 521
Leaving to be paid off by our bonds, &c.....		38, 585, 411
		<hr/>
		<hr/>

Custom-house receipts at New York for 1862-'63-'64-'65.

Months.	1862.	1863.	1864.	1865.
January	\$3, 351, 657 22	\$4, 127, 906 82	\$6, 180, 536 09	\$4, 231, 737 47
February	3, 565, 063 83	3, 590, 713 97	7, 474, 027 93	4, 791, 247 10
March	4, 626, 862 86	4, 544, 460 13	7, 659, 770 47	5, 392, 099 26
April	4, 149, 952 36	3, 957, 197 57	13, 982, 555 60	6, 309, 994 34
May	4, 704, 924 62	3, 873, 865 42	3, 855, 186 46	8, 133, 423 06
June	4, 664, 927 19	3, 738, 934 06	3, 311, 143 43	7, 837, 075 84
July	7, 211, 817 68	4, 912, 718 49	3, 585, 848 44	9, 778, 276 65
August	4, 762, 581 54	6, 296, 735 58	6, 237, 364 17	13, 113, 689 50
September	5, 239, 045 50	7, 270, 543 65	4, 084, 492 54	12, 929, 615 64
October	4, 309, 419 87	6, 238, 943 46	3, 670, 188 38	10, 973, 513 01
November	3, 003, 270 23	5, 075, 846 24	3, 455, 156 53	9, 933, 483 76
December	2, 664, 593 82	5, 248, 189 03	3, 440, 852 67	8, 348, 750 41
Total.....	52, 254, 116 72	58, 886, 054 42	66, 937, 127 71	101, 772, 905 94

Shipments of specie from San Francisco.

[From the San Francisco Mercantile Gazette.]

Years.	East'n ports.	England.	China.	Panama.	Other ports.	Total.
1854	\$46,533,166	\$3,781,080	\$965,887	\$204,592	\$560,908	\$52,045,633
1855	38,730,564	5,182,156	889,675	231,207	128,129	45,161,731
1856	39,895,294	8,666,289	1,308,852	253,268	573,732	50,697,434
1857	35,531,778	9,347,743	2,993,264	410,929	692,978	48,976,692
1858	35,891,236	9,265,739	1,916,007	299,265	175,779	47,584,026
1859	40,146,437	3,910,930	3,100,756	279,949	202,390	47,640,462
1860	35,719,296	2,672,936	3,374,680	300,819	258,185	42,325,916
1861	32,628,011	4,061,779	3,541,279	349,769	95,920	40,676,758
1862	26,194,035	12,950,140	2,660,754	434,508	322,324	42,561,761
1863	10,389,330	28,467,256	4,206,370	2,503,296	505,667	46,071,920
1864	12,316,122	34,436,423	7,888,973	378,795	686,888	55,707,201
1865	20,583,390	15,432,639	6,963,522	1,224,845	1,103,832	45,308,228
Total..	375,558,659	138,175,110	39,810,019	6,871,242	5,306,732	565,721,762

American mode of returning to specie payments.

Movement of gold at New York in January, 1866 :

Imported from foreign ports	\$72,771
Received from California	1,487,967
Total receipts	1,560,738
Exported to foreign ports	2,706,336
Loss in January	1,145,598

Movements of gold.

	1862.	1863.	1864.	1865.
Gold received from California	\$25,010,116	\$12,207,320	\$12,907,803	\$21,531,781
Gold imported from foreign countries ..	1,390,277	1,528,279	2,265,522	2,137,016
Gold exported to foreign countries ..	59,437,021	49,754,056	50,803,122	37,624,584
Gold paid for customs	52,254,117	58,886,054	66,937,128	101,772,906
Gold interest paid at treasury			33,126,874	40,304,279
Gold in banks and sub-treasury in December of each year	38,154,379	36,847,190	23,961,268	50,694,027
Gold shipped from San Francisco to all places	42,561,761	46,071,920	55,707,201	45,308,228

Valuation of property in Cincinnati.

Years.	Real estate.	Personal property.	Total.
1855	\$60,335,932	\$24,994,948	\$85,330,880
1856	60,701,267	20,795,203	81,496,460
1857	61,340,971	25,104,120	86,445,091
1858	62,681,602	26,051,151	88,732,753
1859	63,746,316	29,292,788	93,039,104
1860	61,428,917	30,532,458	91,961,375
1861	62,677,837	30,313,411	93,391,248
1862	63,503,296	29,707,861	93,211,157
1863	64,441,532	35,932,561	100,374,093
1864	65,355,774	49,809,574	115,195,348

The foregoing table is valuable in showing the great difference in the advance of value in the real and personal property. This difference is in part occasioned by the large business of Cincinnati during the war, but chiefly by the inflation of prices by the currency.

Export of provisions from the United States to Great Britain.

Years.	Beef.		Pork.		Cut meats.	Lard.	Butter.	Cheese.
	<i>T'ces.</i>	<i>Bbls.</i>	<i>Tierces.</i>	<i>Barrels.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
1864..	77,298	5,534	2,277	37,095	176,180,700	55,671,900	21,610,300	39,075,400
1865..	73,815	4,021	20	18,152	56,350,900	7,012,500	8,130,100	38,877,900

To the continent.

1864..	1,253	6,790	.....	13,905	22,860,200	53,814,400	2,675,600	1,085,400
1865..	326	3,813	.....	1,314	14,500	555,300	24,400	16,400

All other foreign ports.

1864..	199	41,929	23	209,003	7,859,800	24,802,900	5,616,800	2,946,500
1865..	391	37,247	82	125,597	4,955,800	19,632,000	3,625,300	1,523,600

Total.

1864..	78,750	54,253	2,300	260,093	206,900,700	134,289,200	29,902,700	43,107,300
1865..	74,532	44,081	102	145,063	61,321,200	27,197,800	11,779,800	40,417,900

COTTON CROP OF ILLINOIS.

The following were the shipments of cotton from nine stations on the Illinois Central railroad :

	<i>Pounds.</i>
1862	6,770
1863	91,597
1864	384,480
1865	1,581,400

EXPORTS AND PRICES OF FARM PRODUCE.

Exports from New York of the leading agricultural products from January 1, 1866, to February 27, compared with those for the same time in 1865, and their prices in New York and Chicago.

Articles.	1866.	1865.	Prices in New York Feb. 27, 1866.	Prices in Chicago Feb. 18, 1866.
Wheat flour ....barrels..	166,728	241,772	\$6 60 to \$10 75	\$4 00 to \$10 25
Rye flour .....do....	286	397		3 75 to 4 50
Corn meal.....do....	14,802	26,110	3 70 to 4 35	
Wheat .....bushels..	67,700	114,328	1 62 to 2 32	79½ to 1 22½
Corn .....do....	849,925	77,846		35 to 37½
Rye .....do....	50,248	141		46 to 49½
Barley.....do....				90 to 1 30
Oats .....do....	88,265	14,848	51 to 57	19½ to 23
Peas .....do....	10,073	10,196		50 to 1 00
Cotton .....bales..	83,960	7,247	41	
Hay .....do....	9,075	6,173	80 to 95	50 to 60
Hops .....do....	110	5,926	10 to 65	30 to 50
Leaf tobacco ..hds..	8,547	18,925	7 to 21	
Leaf tobacco ..packages..	8,752	17,373		
Manuf. tobacco..pounds..	366,251	1,226,140		
Petroleum .....gallons..	4,721,768	1,639,787	44	
Pork .....barrels..	11,928	25,151	28 00 to 28 50	23 50 to 28 75
Beef .....do....	3,208	8,293	16 00 to 24 00	14 00 to 19 00
Beef .....tierces..	6,758	13,267		
Cut meats .....pounds..	5,460,196	9,653,540	11½ to 19	10 to 17
Butter .....do....	463,132	4,375,066	25 to 50	19 to 28
Cheese .....do....	2,177,742	7,622,145	16 to 22	15 to 19
Lard .....do....	3,911,470	6,888,277	16 to 19½	16¼ to 17¾
Tallow .....do....	2,182,914	5,779,277	12 to 12¾	11 to 11¾
Wool, fleece...do....			52½ to 73½	43 to 50
Sorghum molasses..galls..				45 to 50

AGRICULTURAL STATISTICS OF UTAH.

It is with no ordinary pleasure that we present the following tables of the agricultural statistics of this Territory. Our correspondents there have ever been prompt and painstaking, and have interested us in the progress of an agriculture in the midst of the Rocky mountains, and so different from that of the Atlantic States. What will much interest all is the table relative to irrigation. We have here an expenditure of \$1,766,939 to irrigate 153,949 acres, being \$11 50 per acre. Washington county, which is the most southern one in Utah, lying between the 37th and 38th degrees of latitude, raised last year 384 acres of cotton and 92 acres of grapes, yielding 5,200 pounds of grapes. The energy that is accomplishing so much is worthy of all commendation.

COUNTIES.

COUNTIES.	Number of acres in wheat.	Average yield per acre in bushels.	Number of acres in barley.	Average yield per acre in bushels.	Number of acres in oats.	Average yield per acre in bushels.	Number of acres in corn.	Average yield per acre in bushels.	Number acres in sorghum.	Average yield per acre in gallons.	Number of acres in potatoes.	Average yield per acre in bushels.	Number of acres in carrots.	Average yield per acre in bushels.	Number of acres in small crops.	Average yield per acre in bushels.	Number of acres in cotton.	Average yield per acre in pounds.	Number of acres in meadow.	Average yield per acre in tons.	
Beaver	1,781	21	112	30	135	22	15	20	156	91	150	62	5	150	12	281	30	---	---	1,108	1
Box Elder	1,845	30	308	33	484	41	228	20	245	45	1,118	207	54	315	50	386	---	---	---	1,435	1
Cache	10,278	23	858	29	478	34	750	20	291	118	1,118	178	79	361	387	366	---	---	5,435	1	
Davis	1,917	26	291	27	350	32	402	22	351	107	116	101	18	250	12	303	300	---	---	1,618	1
Great Salt Lake	3,999	23	633	28	910	31	1,008	22	496	90	639	138	102	336	304	303	170	---	2,170	1	
Iron	2,315	20	164	25	181	21	271	18	---	---	406	68	5	600	130	500	---	---	635	1	
Juab	1,000	25	3	35	200	30	250	15	100	75	125	100	2	500	100	---	---	---	1,300	1	
Kane	416	17	6	40	7	20	425	15	156	93	26	112	1	---	36	200	100	---	1,200	4	
Millard	2,511	21	162	28	923	31	230	22	103	60	58	100	2	500	90	200	100	---	1,635	1	
Morgan	1,272	27	127	35	437	36	9	27	---	---	112	160	10	257	27	300	---	---	910	1	
Piute	880	15	10	---	225	10	50	---	---	---	30	---	3	---	10	300	---	---	225	---	
Richland	2,050	40	550	40	470	40	5	---	---	---	175	300	94	300	170	300	---	---	21,700	1	
Saopee	10,122	20	80	22	2,800	30	115	16	---	---	545	68	62	135	115	115	---	---	9,350	1	
Sevier	1,195	22	6	30	202	37	25	20	3	---	44	87	5	300	3	250	10	---	500	1	
Summit	810	28	37	37	102	40	---	---	---	---	16	150	3	350	4	200	---	---	550	2	
Tooele	760	25	10	50	100	40	490	21	18	70	55	212	17	566	19	425	---	---	530	1	
Utah	7,354	19	818	27	1,355	28	2,107	17	522	82	598	107	11	400	9	112	---	---	7,811	1	
Wasatch	988	22	25	25	297	28	1	15	---	---	74	180	2	250	12	324	---	---	1,177	1	
Washington	790	18	19	15	13	23	926	19	499	74	99	185	15	337	23	291	62	---	1,672	2	
Weber	3,223	21	462	30	662	28	1,035	20	239	78	221	127	12	283	64	295	172	---	2,873	1	
Total	55,533	23	4,681	30	11,631	31	9,502	20	2,888	79	4,832	139	451	341	2,421	265	115	151	65,014	18	

* Three acres of rye and one of hemp.

County table showing the expense of the main irrigating canals and the amount of land irrigated by the same in Utah Territory.

Counties.	No. of canals.	Mean length.	Mean width.	Mean depth.	Mean inclination per mile.	Total length.	Cost of construction, including dams.	No. of acres irrigated.	Estimated cost of canals in progress.
		<i>Rods.</i>	<i>Ft. in.</i>	<i>Ft. in.</i>	<i>Ft. in.</i>	<i>Rods.</i>			
Beaver	3	1,706	5 0	2 0	15 8	5,120	\$36,060	3,321	.....
Box Elder	7	845	6 0	2 6	48 0	5,920	115,000	3,588	.....
Cache	44	1,130	5 6	1 10	4 6	49,760	323,640	29,329	\$58,000
Davis	8	950	3 3	1 6	32 6	7,600	30,500	3,754	500
Great Salt Lake	29	1,793	7 8	2 2	19 10	48,422	374,962	18,574	512,000
Iron	14	720	5 7	2 4	35 10	10,080	62,400	4,259	5,000
Juab	1	2,240	8 0	3 6	25 0	2,240	33,000	3,319	.....
Kane	21	866	2 8	1 8	7 4	18,200	42,775	1,604	3,000
Millard	10	1,680	6 9	2 7	20 0	16,800	42,530	6,117	1,000
Morgan	10	1,136	5 4	1 6	7 4	11,360	21,800	2,946	7,000
Pi-Ute	1	800	5 0	3 0	12 0	800	2,000	1,440	2,500
Richland	16	687	3 5	1 6	3 1	11,000	15,400	4,133	42,000
Sanpete	30	1,127	6 10	2 4	23 5	33,812	145,197	23,303	.....
Sevier	3	1,673	6 8	2 2	3 8	5,020	13,661	1,993	500
Summit	5	895	5 0	2 9	6 6	3,580	9,300	1,982	11,090
Tooele	4	2,040	5 4	1 8	37 6	8,160	33,000	2,217	.....
Utah	31	1,252	7 1	1 10	11 1	38,808	167,182	23,245	144,430
Wasatch	6	600	4 5	1 10	9 2	3,600	3,775	5,861	20,300
Washington	19	1,296	5 3	2 4	16 7	24,640	142,481	3,875	89,500
Weber	15	1,929	7 3	2 4	7 10	28,940	152,276	9,089	1,000
Total	277	1,268	5 6	2 2	17 4	333,862	1,766,939	153,949	897,730

Horticultural statistics, Utah Territory, 1865.

County.	No. of acres in apples.	Average yield per acre in bushels.	No. of acres in peaches.	Average yield per acre in bushels.	No. of acres in grapes.	Average yield per acre in pounds.	No. of acres in other kinds of fruit.	Average yield per acre in bushels.
Box Elder	11	.....	92	175	5	.....	25½	250
Cache	134	.....	7	.....	.....	.....	66	20
Davis	38½	225	68	163	.....	.....	8½	.....
Great Salt Lake	203	145	171	150	2	300	56	76
Iron	8	.....	3	.....	.....	.....	2	100
Juab	20	.....	3	300	.....	.....	16	200
Kane	37	.....	52	87	.....	.....	25	.....
Millard	57	.....	10	52	75	.....	10	100
Sanpete	7	.....	6	.....	.....	.....	5	.....
Tooele	17	92	120	233	.....	.....	30	500
Utah	82	.....	116½	232½	1½	.....	9½	.....
Washington	52	20	239	366	92	5,200	17	50
Weber	51	33	75	81	2	.....	18½	12
Total	717½	103	962½	184	177½	2,750	289	145

State War Debts, &c.

The following table exhibits the war debts of the States as reported to Congress; the amount per man (\$55) proposed by the committee in Congress to be repaid to the States; the number of three-year men furnished by each State; the number to each representative in Congress, and the amount of the debt or bonus to each man:

States.	War debt.	\$55 for each man furnished.	No. of men (three-years') furnished.	No. to each congressional representative.	Debt for each man.
Maine.....	\$12,632,580	\$3,112,725	56,595	11,337	\$223 21
New Hampshire.....	13,125,000	1,695,485	30,827	10,279	409 54
Vermont.....	8,806,759	1,587,860	29,052	9,634	303 13
Massachusetts.....	47,809,827	6,811,420	123,844	12,384	386 05
Rhode Island.....	6,500,772	983,290	17,878	8,922	363 62
Connecticut.....	17,386,151	2,778,270	50,514	12,628	344 18
New York.....	111,005,953	20,993,280	381,696	12,313	290 82
New Jersey.....	26,786,421	3,068,175	55,785	11,157	480 18
Pennsylvania.....	53,527,395	14,715,690	267,558	11,148	200 06
Delaware.....	1,149,000	566,665	10,303	10,333	110 60
Maryland.....	8,658,458	2,238,060	40,692	8,136	212 78
West Virginia.....	2,000,000	1,520,915	27,653	9,217	72 32
Ohio.....	64,867,813	13,088,680	237,976	12,525	272 58
Indiana.....	22,334,967	8,375,565	152,283	13,844	146 66
Illinois.....	30,000,000	11,698,170	212,694	15,192	142 05
Michigan.....	12,000,000	4,447,575	80,865	13,442	148 39
Wisconsin.....	12,240,795	4,344,175	78,985	13,164	155 00
Minnesota.....	2,518,361	1,082,125	19,675	9,838	128 00
Iowa.....	2,200,000	3,750,010	68,182	11,344	32 27
Missouri.....	9,446,575	4,740,560	86,192	9,577	109 60
Kentucky.....	2,150,537	3,869,140	.....	.....	.....
Kansas.....	818,000	1,025,970	18,654	18,654	43 90
Tennessee.....	.....	664,235	.....	.....	.....
California.....	.....	409,805	.....	.....	.....
Oregon.....	.....	31,955	.....	.....	.....
Nevada.....	.....	11,880	.....	.....	.....
Washington Territory.....	.....	49,225	.....	.....	.....
Nebraska Territory.....	.....	20,000	.....	.....	.....
Colorado Territory.....	.....	96,910	.....	.....	.....
Dakota Territory.....	.....	9,955	.....	.....	.....
New Mexico Territory.....	.....	55,605	.....	.....	.....
District of Columbia.....	.....	632,830	.....	.....	.....
Total.....	467,954,364	118,487,105	.....	.....	.....

DYER'S · MADDER.

The following facts, bearing upon the adaptability and profit of madder culture in this country, were communicated to the Senate Committee on Agriculture, at its request :

DEPARTMENT OF AGRICULTURE,
Washington, D. C., February 28, 1866.

SIR : In response to your request for "all statistics upon the present cultivation of the madder plant in the United States and elsewhere, the demand for it, the climate and soil suited to its growth," and any suggestions of "such measures as in your (my) opinion will promote the object of this inquiry," I beg leave to make the following statements :

With the extension of manufactures in this country the demand for dyers' madder (*Rubia tinctoria*) is increased; and it becomes an interesting inquiry, whether the million of dollars, (or it may be two millions or more annually in the future,) now paid to foreign producers, may not be saved to the industry of the country.

IMPORTS.

Twenty years ago the imports of madder were so considerable as to induce experiments in its culture and preparation. From a statement made in 1848 there was imported into New York in eighteen months from January 1, 1845, and into Boston, Philadelphia, and Baltimore, in twenty-one months from the same date, an aggregate of 16,804,715 pounds, costing \$1,620,415, or about ten cents per pound.

In the statistics of the commerce and navigation division of the treasury, from which the following table is compiled, the quantity given for the first three years (though the class is not specified) is presumed to be "ground or prepared."

Statement of imports of madder into the United States from 1855 to 1864 inclusive.

Years.	Root.		Ground or prepared.		Extract.		Total.
	Pounds.	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.	Dollars.
1855.....	.....	.....	10,652,548	851,979	.....	.....	851,979
1856.....	.....	.....	20,847,472	1,671,805	.....	.....	1,671,805
1857.....	.....	.....	14,113,425	1,375,472	.....	.....	1,375,472
1858.....	.....	78,144	643,642	.....	.....	40,567	762,353
1859.....	.....	44,138	.....	2,156,403	.....	152,809	2,353,349
1860.....	.....	35,911	.....	784,671	.....	585,698	1,370,280
1861.....	9,911	806	1,543,741	174,645	392,256	96,926	*280,280
1862.....	248,533	17,955	6,283,822	615,713	590,992	118,451	752,119
1863.....	.....	.....	5,752,822	525,419	1,236,317	†249,867	777,802
1864.....	531,370	46,313	7,491,931	542,174	.....	242,385	830,872
Total...	.....	.....	.....	.....	.....	.....	11,026,311

* Including India madder.

† Including extract of logwood also.

The largest portion of this importation comes from France. Holland, Belgium and Turkey furnish much of the remainder. These prices are those

of the countries from which the import comes, and represent gold values. The present quotations in New York are: Dutch, $8\frac{1}{2}$ cents; French, $9\frac{1}{2}$ to 10 cents in gold.

It is stated that the demand for madder is less than formerly, in proportion to the amount of manufacturing done, in consequence of the substitution of aniline dyes extracted from coal-oil or petroleum. And the price has been somewhat reduced at the same time. Twenty years ago the price was about ten cents per pound. In 1864 the root was bought abroad, in gold, for eight cents seven mills, and the prepared for seven cents two mills per pound. In currency, however, in our ports it must have commanded at that time little short of twenty cents. The same fact must be taken into consideration, to some extent, in estimates of probable prices and profits in the future.

CLIMATE AND SOIL.

A mild climate is essential to the best growth and highest development of its peculiar properties; yet it is cultivated throughout a wide range of climate—on the East India coasts, the shores of the Mediterranean, and upon the northern German coasts. All of our middle, southern, and western States afford a climate suitable for the culture.

The roots, which are long and crawling, ligneous, and divided into branches, are yellowish in color and of an astringent taste. In light soils they are small and of a red orange color when dried in the air. In soft, light, rich lands they are grayish in color, but dusky red when powdered. In France the root is extensively cultivated, especially in the department of Vaucluse, where an extensive area, formerly swamps, and lightly esteemed by the proprietors, has been drained, and now commands a high price, and produces an excellent quality of madder. These lands contain from fifty to sixty per cent. of chalk. Undrained or badly drained soils are entirely unsuitable to its growth; and, therefore, heavy uplands, tenacious with a stiff clay, are found to be unprofitable for such a crop. River bottoms, not clayey, and especially "second bottoms," which contain a rich, light loam abounding in humus, are employed to advantage.

CULTURE IN ZEALAND.

In Zealand it is grown upon alluvial bottoms deposited by the sea, which are highly alkaline and silicious, and produce a root of yellowish color. It is propagated there by shoots or sets planted in May, in rows two feet apart. Clean culture by weeding and covering in autumn is pursued, and the roots are taken up and dried by means of stoves, and are a second time dried before being ground.

The yield in Zealand averages 2,350 pounds of powdered madder. The winter being severe, the roots are oftentimes taken up at eighteen months' old. The product is less in such case, but the risk and trouble of a second wintering is avoided.

CULTURE IN FRANCE.

In the French department of Vaucluse it is grown from seed in a chalky alluvial deposit, and is sown in beds five or six feet wide, with a space of eighteen inches between the beds. In November of the first year, the young plants are covered two or three inches with earth taken from between the beds. In the second and third years the beds are carefully weeded, and the foliage cut for forage when in flower. The roots are dug in August or September of the third year, and simply cleaned if the earth is dry, but washed if so damp as to adhere. In digging, the earth is loosened by a spade or fork, and the roots are drawn, piled, dried in the open air, and packed in bales.

The Department of Agriculture has received, through the courtesy of the Secretary of State, several communications relative to the French mode of culture, forwarded by Consul Geo. W. Van Horne, from Marseilles, prepared by practical operators of that vicinity.

The following extracts are from the statement of Messrs. Imer Brothers & Leenhardt:

“Composition of the best soils :

Sand.....	40.8
Lime.....	2.3
Clay.....	53.5
Humus.....	3.4

100

“Of an inferior quality :

Sand.....	22
Lime.....	3.5
Clay.....	73
Humus.....	1.5

100

“*Seed*.—The seed should be perfectly dry and free from fermentation. The seed of the paluds is much better than that of the roses. One may preserve it in a good state for two years by keeping it in a dry place and subjecting it to a thorough ventilation.

“*Sowing*.—A ridge of eight or nine inches wide and one and a half inch deep is made with a spade and sowed. At a distance of two inches another ridge, of the same size, is run, having care to cover the seed of the first ridge with the earth taken from the second, and so on to the completion of the third ridge. These three ridges form a platband about three feet wide, separated from each other by a space one and a half feet in width, left as a path for the laborer in weeding. From this path also is taken the earth to cover the plants in autumn, when the leaves are dead. For the sake of economy these paths are sometimes planted with potatoes, beets, &c., but each extra plant should be put far apart.

“If the earth is well pulverized, instead of the seed being sown, one had better plant roots of the preceding year's growth, as crops obtained from the plants display much finer roots than when raised directly from the seed. But if the ground is not friable, but hard and clayey, the plants would not grow well, and possibly would not take at all. In this case seed must be sown. An acre of madder produces seed sufficient for three or four acres of sowing.

“*Transplanting*.—For the transplanting of roots, as indicated above, ridges, about three feet wide and three inches deep, are made, and the roots laid therein just free from each other; and between these ridges an uncultivated space is left, as in sowing.

“*Weeding*.—The seed is sown, or the roots transplanted, in March, and great care must be observed in keeping the land free from weeds; the paths, also, being attended to in this respect.

“*Irrigation*.—When the land is dry, from drought, it will be necessary to water it by irrigating the intermediate paths, if possible. Slimy water is preferable to clear water for this purpose.

“*Covering*.—In autumn, when the plants lose their verdure and turn to a grayish tint, they must be covered with one and a half or two inches of earth

taken from the paths. In the following spring the clods must be broken with a rake.

“*Digging*.—The madder cultivated in strong, dry soils may be removed in three years, and from wet lands in eighteen months. Thus the madder of the mountain requires three years to mature well, while the paluds may be dug in from one and a half to three years. The roots should not be extracted until the seed has been produced. Some cultivators, who are pressed for the moneyed results of their labors, do not wait for the seed; but the madder thus prematurely gathered is of an inferior quality.

“The ramifications of the stalk are first cut, dried, and threshed for the seed; the straw, or refuse, is saved as fodder for cattle. The roots are then dug with the spade or fork, and as their length will average one and a half feet, it can be seen that their removal leaves the land in a prepared state for some other crop.

“*Drying*.—When dug they are spread on the aire, (usually a level spot of ground paved with brick,) where they are dried by the action of the sun and air. When the larger roots may be easily broken, they should be heaped up, so that the smaller tips (*pettis couts*) may become thoroughly dry. Care must be taken that this place be free from dampness.

“*Trituration*.—When the roots are sufficiently dry they are embaled and sent to the manufacturers, where they are stored in a well-ventilated granary. It is taken from the granary in proportion to each day's demand, and, having caused it to lose 15 to 16 per cent. of water in a drying oven, it is passed under a large mill-stone and ground to powder. The bolters keep the coarser portion for a second grinding.”

The following table of expenses (recently received) is from the statement of Mr. A. de Speyr, of Avignon. It is derived from many years' experience in the cultivation of madder in the department of Vaucluse:

Expenses per hectare (two and a half acres) by manual labor.

FIRST YEAR.

	Soft soil, (paluds.)	Compact soil.
Days in winter for breaking or ploughing.	44 at frs. 2 = 88.00	90 at frs. 2 = 180.00
Manure, (dung.) wagons of.....	22 at frs. 20 = 440.00	22 at frs. 20 = 440.00
Carting.....	22 at frs. 6 = 132.00	22 at frs. 6 = 132.00
Seed, kils.....	85 at frs. 4 = 34.00	34.00
Sowing, days' work of men and women ..	8 at frs. 3 = 24.00	24.00
Weeding, days' work of women.....	66 at frs. 1 = 66.00	66.00
Covering in summer three times.....	34.00	34.00
Covering in winter, fixed price.....	24.75	24.75
Rent of land.....	165.00	132.00
	<hr/>	<hr/>
	1,031.75	1,090.75
Interest at 10 per cent.....	103.17	109.00
	<hr/>	<hr/>
	1,134.92	1,199.75

SECOND YEAR.

	Soft soil, (paluds.)	Compact soil.
Weeding.....	Frs. 22.00	Frs. 22.00
Covering, one in summer.....	12.00	12.00
Covering for winter.....	24.75	24.75
Rent of land.....	165.00	132.00
	<u>223.75</u>	<u>190.75</u>
Interest.....	22.37	19.07
Interest first year.....	101.62	104.75
	<u>347.74</u>	<u>314.57</u>

THIRD YEAR.

	Soft soil, (paluds.)	Compact soil.
Harvest, days' work.....	165 at frs. 5 = 645.00	244 at frs. 3 = 732.00
Drying and packing, quintals, 110 lbs....	77 at frs. 1.58 = 121.66	55 at frs. = 86.90
Rent of land.....	165.00	132.00
	<u>781.66</u>	<u>950.90</u>
Int. of capital of first year for six months.	51.58	54.50
Interest of capital of second year.....	11.18	9.53
	<u>844.42</u>	<u>1,014.93</u>

RECAPITULATION.

	Soft soil, (paluds.)		Compact soil.	
	<i>Francs.</i>	<i>Dollars.</i>	<i>Francs.</i>	<i>Dollars.</i>
First year.....	1, 134. 92	217 90	1, 199. 75	230 35
Second year.....	347. 74	66 75	314. 57	60 39
Third year.....	844. 42	162 12	1, 014. 93	194 08
	<u>2, 327. 08</u>	<u>446 78</u>	<u>2, 529. 25</u>	<u>485 62</u>
Cost per quintal, (110 lbs).....	30. 32	5 82	45. 99	8 83

"It is found, in taking a piece of ground of great firmness and of a productiveness of 33 quintaux of root per hectare, that the expense will amount to only 26.40 francs per quintal, (110 pounds;) whilst in lands of less tenacity there will be a yield, say, of 55 quintaux, which would reduce the cost of the first crop to 15 francs the quintal."

ITS CULTURE IN THIS COUNTRY.

The plant is found to be very hardy in this country, is entirely exempt from injury by insects, and not liable to suffer from drought in deep soils after the first season. Twenty years ago it was produced to some extent in some portions of the country, especially in Ohio. Some of the most successful cultivators

reported a product of 2,000 pounds per acre. A Mr. Joseph Swift, of Birmingham, Erie county, Ohio, for several years engaged in its production, with profitable results for a time at least. The following is a statement of one of his crops, as reported originally by Mr. M. B. Bateham:

By 2,000 pounds of madder, at 15 cents per pound.....	\$300 00
Contra.—To 100 days' work, at 75 cents.....	\$75 00
To use of land four years, at \$4 per acre.....	16 00
To grinding, packing, &c.....	9 00
	<hr/> 100 00
Leaving a profit of	<hr/> 200 00

I am unable to learn that the culture is continued in Ohio to any extent. Its cultivators have sometimes met with loss from drought soon after planting. The great length of time required for maturing the crop has been a great drawback to its cultivation, especially if coupled with ill success through drought in starting a plantation.

The soil in which the Ohio experiments were made was in most cases river bottom, not wet or liable to overflow. Good strong upland, not clayey enough to bake hard, was thought to be almost as good, and a soil impregnated with lime was found to produce the best quality.

The land was ridged up in the autumn, and in the spring received a dressing of barn-yard manure, sometimes with leaf-mould or decomposed muck in the case of uplands, previous to ploughing and harrowing. For planting, light, straight furrows were made, eight feet apart, and the roots were laid lengthwise one foot apart and covered to the depth of two inches. Ten bushels of sets were sufficient for one acre.

A cultivator was employed between the rows, with hoes along the rows as soon as the plants made their appearance, and such cultivation was continued at such intervals as to keep the surface free from weeds. The more thorough in this respect, the less labor was needed the next season.

Vacancies were filled up by lifting and dividing some of the stronger roots, when the plants were well rooted, in May or June. When twelve or fifteen inches high, the tops were bent down on each side and covered with earth, excepting the tip. This operation was continued whenever the new shoots had attained the same height as before, until the entire space between the rows was filled, with the exception of a space of two feet in the middle, which was kept clean and mellow by a single plough. This process of layering filled the whole space with roots, and left no necessity for culture the second year, with the exception of weeding and ploughing the middles. But the tops were bent down and covered to fill closely the remaining space, until it became difficult to get dirt in the ditches with which to cover. Care was exercised to keep the edges of the bed as high as the centre, to prevent the too rapid drainage of water and the danger from drought.

Washing and drying.—The roots were washed in some running stream. If none was near, they were washed in large sieves, the wire as fine as that of wheat sieves, half a bushel at a time, the roots being carefully pulled apart while washing. Two hands could thus wash 125 to 150 bushels per day. They were then spread on platforms made of tight boards, making a layer of roots four inches in depth upon each, and dried in the sun, the platforms being set up so as to incline towards the south. Five or six days of dry weather, with protection from dews at night, was found sufficient to cure it. Subsequently it was kiln-dried and ground.

Kiln-drying.—The following plan was recommended and adopted in these Ohio experiments, by which the drying was accomplished in ten or twelve

hours: "Place four strong posts into the ground, twelve feet apart one way and eighteen the other; the front two fourteen feet high and the other eighteen; put girths across the bottom, middle, and top, and nail boards perpendicularly on the outside, as for a common barn. The boards must be well seasoned, and all cracks or holes should be plastered or otherwise stopped up. Make a shed roof of common boards; in the inside put upright standards about five feet apart, with cross-pieces to support the scaffolding; the first cross-pieces to be four feet from the floor, the next two feet higher, and so on to the top. On these cross-pieces lay small poles about six feet long and two inches thick, four or five inches apart. On these scaffolds the madder is to be spread eight or nine inches thick. A floor is laid at the bottom to keep all dry and clean. When the kiln is filled, take six or eight small kettles or hand-furnaces, and place them four or five inches apart on the floor, (first securing it from fire with bricks or stones,) and make fires in them with charcoal, being careful not to make any of the fires so large as to scorch the madder over them. A person must be in constant attendance to watch and replenish the fires; (but he should be cautioned not to remain long inside, as the gas from charcoal fires is liable to cause suffocation.)"

Breaking and grinding.—The roots, which are brittle when dry, were broken by threshing with flails, or passing through a bark mill or other crusher. They were ground immediately after kill-drying, otherwise they would gather dampness. After crushing, the grinding was done in a common grist-mill. It was then packed in vessels like flour, and was ready for market.

ITS CULTURE AT THE PRESENT TIME.

I have no knowledge of any persons engaged in the cultivation of madder in this country at the present time. We have a suitable climate and productive soils. The greatest obstacle to success with it seems to be the high price of agricultural labor and the scarcity of casual or irregular labor, which renders it difficult to obtain help at the precise season when required. Another reason is found in the proverbial disinclination of our people to agricultural or any other species of productive industry which requires three years to secure returns. It seems to be a remunerative crop, if it can be produced under favorable circumstances. By the selection of a proper soil and a very favorable climate, (perhaps in the southern States or in California, where its constant growth might produce an excessive yield with labor of German women or children, or Chinamen,) with system and labor-saving appliances in cultivating and preparing it, a profitable result might be secured. It is very proper and highly desirable that a fair and persistent trial should be made to overcome the difficulties which have interfered with the enterprise thus far.

If there are those who would make another effort at the present time, let them choose a southern or southwestern aspect, and select a deep, rich, sandy, and calcareous loam free from all weeds. Let it be ploughed early in the autumn, and again turned up into ridges before the winter frosts set in, so that the soil may be finely pulverized in spring, when the beds are prepared and the sets planted. The ground should be dry before planting.

As a preparation for planting, the soil should be thoroughly and deeply pulverized, and well-rotted manure well incorporated with it. The sets, taken from plantations two or three years old, should have roots four or five inches long. The roots should be dipped in a thin paste of fine rich earth and water, and set with a dibble, leaving the crown above the surface and the earth properly compacted about the roots. During the summer months clean culture is required, with hoe or cultivator, or, while the plants are young, with a light plough; and in the autumn, after the tops decay, to be earthed up for the winter, as a protection against frost.

The following extract from a note just received from Mr. M. B. Bateham, of Columbus, Ohio, formerly editor of the Ohio Cultivator, corroborates the views I have formed upon this subject:

"I believe the business has been entirely discontinued in Ohio, and I have no knowledge of its being practiced in any other State. The reasons for this are not from any lack of adaptedness of soil or climate, but simply because the business requires *much labor*, which must be done by hand, and can only be carried on to advantage near large towns, where Germans or other cheap laborers can be readily obtained at special times when wanted. This was the cause of the abandonment of the business by Mr. Swift and others who have tried it in Ohio. My own experiment, near Columbus, was on soil found unsuited to the purpose. It was too rich and clayey, (alluvial river bottom.) Good sandy alluvial is found well adapted to this crop. For the past few years the price of labor has been too high to encourage any one to engage in madder-growing."

Regretting that I am unable to give a more flattering view of the profit of madder culture in this country, I have the honor to be, yours respectfully,

ISAAC NEWTON, *Commissioner.*

HON. JOHN SHERMAN,

Chairman of Senate Committee on Agriculture.

METEOROLOGY.

JANUARY, 1866.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for January, 1865, at the following places, as given by the observers named. The daily observations were made at 7 o'clock a. m. and 2 and 9 p. m.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MAINE.								
Steuben	Washington	J. D. Parker	20	44	7	—20	16.5	2.61
Lee	Penobscot	Edwin Pitman	1, 20	36	7	—28	12.3	2.40
West Waterville....	Kennebec	B. F. Wilbur	1, 18	40	7	—23	15.0	2.39
Gardiner	do	R. H. Gardiner	1	40	7	—18	14.1	1.63
Lisbon	Androscoggin....	Asa P. Moore			7	—18		2.05
Webster	do	Almon Robinson....	1	39	7, 8	—16	15.1	.....
Standish	Cumberland	John P. Moulton....	1	40	7	—17	17.3	1.48
Cornish	York	Silas West	10	38	8	—18	16.9	1.45
Cornishville	do	G. W. Guptill	1, 10	37	7	—16	17.3	2.10
Belfast	Waldo	Geo. E. Brackett....			7	—24		.....
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	20	39	7	—33	10.5	3.00
Shelburne	do	Fletcher Odell	1	42	8	—18	17.2	2.40
North Barnstead....	Belknap	Chas. H. Pitman	1, 10	40	8	—15	20.5	1.00
Claremont	Sullivan	Stephen O. Mead....	13, 18	42	8	—20	17.4	.....
			19, 20					
Do	do	Arthur Chase	1, 18	40	8	—20	17.1	1.60
VERMONT.								
Lunenburg	Essex	H. A. Cutting	18, 20	37	7	—31	14.5	1.55
Craftsbury	Orleans	Jas. A. Paddock	20	35	8	—25	11.7	1.96
Randolph	Orange	Charles S. Paine....	1	40	7	—20	17.9	1.72
Middlebury	Addison	H. A. Sheldon	20	44	7	—21	15.3	1.20
Brandon	Rutland	Harmon Buckland....	20	44	7	—20	18.1	0.71
MASSACHUSETTS.								
Topsfield	Essex	A. M. Merriam	1	46	8	—15	26.7	2.02
Georgetown	do	Henry M. Nelson....	20	43	8	—16	21.0	.....
Newbury	do	Jno. H. Caldwell....	20	45	8	—16	21.5	.....
Cambridge	Middlesex	A. Fendler	18	43	8	—18	22.0	1.31
New Bedford	Bristol	Samuel Rodman....	20	49	8	—12	25.7	2.17
Worcester	Worcester	Joseph Draper, M.D.	19	44	8	—15	24.0	2.56
Mendon	do	Jno. G. Metcalf, M.D.	13	52	8	—17	26.3	7.00
Amherst	Hampshire	Prof. E. S. Snell....	18	40	8	—15	21.9	1.36

Table showing the range of the thermometer, &c., for January—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MASSACHUSETTS— Continued.				°		°	°	<i>In.</i>
Springfield	Hampden	J. Weatherhead	13	43	8	—21	22.9	1.52
Westfield	do	Rev. E. Davis	13	46	8	—16	24.9	1.74
Richmond	Berkshire	Wm. Bacon	20	46	8	—18	19.6	3.25
Williams College	do	Prof. A. Hopkins	20	45	8	—18	19.0	1.01
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	18, 19	46	8	—6	26.6	3.37
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	19, 20	44	8	—19	22.1	0.73
Columbia	Tolland	Wm. H. Yeomans	13	52	8	—20	25.6	1.40
Colebrook	Litchfield	Charlotte Rockwell	13	43	8	—25	18.7	.....
Groton	New London	Rev. E. Dewhurst	20	50	8	—15	.....	.....
NEW YORK.								
Moriches	Suffolk	Miss N. Smith	20	49	8	—10	30.0	2.59
South Hartford	Washington	G. M. Ingalsbe	20	46	8	—19	19.0	1.18
Fishkill Landing	Dutchess	Wm. H. Denning	20	46	8	—13	21.3	0.99
Garrison's	Putnam	Thomas B. Arden	18, 20	43	8	—16	22.0	2.35
Throg's Neck	Westchester	Miss E. Morris	13	43	8	—14	24.7	1.57
Deaf & Dumb Inst. ..	New York	Prof. O. W. Morris	13, 20	49	8	—13	29.6	2.56
Columbia College	do	Prof. Chas. A. Joy	20	45	8	—14	25.8	2.83
Newburg	Orange	James H. Gardiner	13	52	8	—15	23.7	1.53
Gouverneur	St. Lawrence	Cyrus H. Russell	20	43	7	—28	11.3	1.55
South Trenton	Oneida	Storrs Barrows	20	42	8	—22	15.4	2.85
Oneida	Madison	S. Spooner, M. D.	20	51	8	—20	19.6	1.80
Theresa	Jefferson	S. O. Gregory	1	38	15	—23	13.6	2.25
Depauville	do	Henry Haas	20	54	7	—16	16.3	3.32
Oswego	Oswego	Wm. S. Malcolm	20	50	8	—8	21.1	1.14
Palermo	do	E. B. Bartlett	20	46	8	—20	18.5	1.56
Skaneateles	Onondaga	W. M. Beauchamp .....	.....	.....	8	—19	.....	.....
Baldwinsville	do	John Bowman	20	53	7, 8	—18	19.0	0.70
Nichols	Tioga	Robert Howell	20	50	7	—18	22.6	.....
Geneva	Ontario	Rev. Dr. W. D. Wilson	20	48	8	—12	22.1	0.82
Rochester	Monroe	M. M. Mathews, M. D.	20	50	7, 8, 9	—3	22.7	1.48
do	do	Prof. C. C. Dewey	20	51	9	—4	21.7	1.48
Buffalo	Erie	William Ives	19	55	7	—6	23.3	1.46
Jamestown	Chautauqua	Rev. S. W. Roe	19	56	8	—17	19.8	1.10
NEW JERSEY.								
Paterson	Passaic	William Brooks	13	48	8	—14	26.1	1.33
Newark	Essex	Wm. A. Whitehead	13	46	8	—13	25.8	1.74
New Brunswick	Middlesex	Geo. H. Cook	13	43	8	—12	26.1	1.65
Trenton	Mercer	E. R. Cook	20	49	8	—12	.....	3.02
Burlington	Burlington	John C. Deacon	13	50	8	—8	27.7	2.00
Moorestown	do	Thomas J. Beans	13	52	8	—12	27.3	2.63
Mount Holly	do	M. J. Rhee, M. D.	20	56	8	—9	28.8	.....
Haddonfield	Camden	James S. Lippincott	20	47	8	—12	27.4	2.08
Greenwich	Cumberland	R. C. Sheppard	19, 20	52	8	—9	29.5	2.29

Table showing the range of the thermometer, &c., for January—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
PENNSYLVANIA.								
Nyces	Pike	John Grathwohl	19	62	8	—23	20.2	1.26
Fallsington	Bucks	Ebenezer Hance	13	50	8	—9	30.0	2.20
Philadelphia	Philadelphia	Pf. J. A. Kirkpatrick	13	52	8	—9	30.3	2.88
Germantown	do	Thomas Meehan	13 18, 20	50	8	—13	27.6	.....
Moorland	Montgomery	Miss Anna Spencer	3	52	8	—12	27.0	1.30
Dyberry	Wayne	Theodore Day	20	44	8	—22	17.5	.....
Nazareth	Northampton	L. E. Ricksecker	19	53	8	—11	26.8	.....
North Whitehall	Lehigh	Edward Kohler	18	46	8	—13	25.6	.....
Parkesville	Chester	Fenelon Darlington	20	51	8	—10	26.8	2.09
Ephrata	Lancaster	W. H. Spera	13	68	8, 9	—9	28.2	3.87
Silver Spring	do	H. G. Bruckhart	13	52	8	—6	28.1	.....
Mountjoy	do	J. R. Hoffer	23	60	8	—5	30.8	2.00
Harrisburg	Dauphin	John Heisely, M.D.	13	47	8	—2	28.4	2.35
Lewisburg	Union	C. T. James	13	48	8	—8	23.3	1.91
Tioga	Tioga	E. T. Bentley	20	56	8	—24	23.6	.....
Pennsville	Clearfield	Elisha Fenton	19	60	8	—12	22.6	2.55
Connellsville	Fayette	John Taylor	19	67	8	—12	26.8	.....
Canonsburg	Washington	Rev. Wm. Smith, D.D.	19	58	8	—7	24.9	1.76
MARYLAND.								
Woodlawn	Cecil	Jas. O. McCormick	13	54	8	—7	29.8	2.61
Catonsville	Baltimore	George S. Grape	13	52	8	—7	27.3	.....
Annapolis	Anne Arundel	Wm. R. Goodman	13	54	8	—5	31.7	2.19
St. Ingoes	St. Mary's	Rev. J. Stephenson	13	61	8	—8	32.9	2.53
Frederick	Frederick	Miss H. M. Baer	13	53	8	—7	29.3	1.75
DIST. OF COLUMBIA.								
Washington	Washington	Smithsonian Instit'n.	13	56	8	—2	31.9	3.98
WEST VIRGINIA.								
Cabell Court-House	Cabell	C. L. Roffe	19	69	8	3	34.3	1.90
VIRGINIA.								
Wythesville	Wythe	Howard Shriver	19	63	5	8	33.2	.....
GEORGIA.								
Atlanta	Fulton	Frederick Deckner	19, 30	71	9	15	42.0	3.98
ARKANSAS.								
Helena	Phillips	O. F. Russell	19	78	21	20	45.9	2.07
TENNESSEE.								
Clarksville	Montgomery	Wm. M. Stewart	19	73	21	12	38.1	4.37
KENTUCKY.								
Louisville	Jefferson	Mrs. L. Young	19	70	8, 9	5	34.5	4.67
(Near) Chilesburg	Clark	S. D. Martin, M.D.	19	68	9	2	34.0	4.68
Danville	Boyle	O. Beatty	19	73	8, 9, 21	8	36.0	5.34
London	Laurel	W. S. Doak	19	66	9	6	33.7	.....
OHIO.								
Austintown	Ashtabula .....	.....	19	54	9	—10	21.0	0.35
Saybrook	do	James B. Fraser	19	58	9	—8	23.2	1.50

Table showing the range of the thermometer, &c., for January—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
OHIO—Cont'd.				°		°	°	In.
New Lisbon.....	Columbiana.....	J. F. Benner.....	19	62	8	—2	27.5	1.33
East Fairfield.....	do.....	S. B. McMillan.....	19	58	8	—3	25.5	1.90
Steubenville.....	Jefferson.....	Roswell Marsh.....	.....	66	.....	—6	28.3	1.93
Millersville.....	Guernsey.....	Rev. D. Thompson.....	19	66	8	—3	26.2	2.05
East Cleveland.....	Cuyahoga.....	Mr. & Mrs. G. A. Hyde.....	19	61	9	0	26.7	1.99
Wooster.....	Wayne.....	Martin Winger.....	19	60	8	—2	25.2	0.47
Gallipolis.....	Gallia.....	A. P. Rogers.....	19	67	8	1	31.9	4.14
Kelley's Island.....	Erie.....	Geo. C. Huntington.....	19	51	8	3	25.4	1.81
Norwalk.....	Huron.....	Rev. A. Newton.....	19	60	9	3	25.2	1.73
Westerville.....	Franklin.....	Pf. H. A. Thompson.....	19	61	8	—2	27.0	2.73
Kingston.....	Ross.....	Prof. Jno. Haywood.....	19	64	8	—1	29.4	3.42
Toledo.....	Lucas.....	J. B. Trembley, M.D.....	19	57	8	—1	24.7	1.75
Marion.....	Marion.....	H. A. True, M.D.....	19	59	8	—1	25.0	2.72
Urbana University..	Champaign.....	Prof. M. G. Williams.....	19	61	8	—2	25.8	3.39
Hillsboro'.....	Highland.....	J. McD. Mathews.....	19	63	8	—2	28.2	4.35
Ripley.....	Brown.....	G. Bambach, M.D.....	19	68	8	3	34.3	4.81
Bethel.....	Clermont.....	Geo. W. Crane.....	19	66	8	0	28.5	3.75
Cincinnati.....	Hamilton.....	George W. Harper.....	19	68	8	2	31.1	2.74
Do.....	do.....	R. C. Phillips.....	19	66	8	12	35.8	3.37
College Hill.....	do.....	L. E. Tuckerman.....	19	64	8	2	29.0	3.48
MICHIGAN.								
Monroe.....	Monroe.....	Miss F. E. Whelpley.....	19	50	8	—8	24.0	0.40
State Ag. College..	Ingham.....	Prof. R. C. Kedzie.....	19	47	9	—7	21.2	2.08
Homestead.....	Benzie.....	Geo. E. Steele.....	29	39	8	—16	18.6	.....
Holland.....	Ottawa.....	L. H. Streng.....	12	43	9	—9	24.0	3.11
INDIANA.								
Balbec.....	Jay.....	Miss M. Griest.....	19	62	9	—2	24.4	.....
Aurora.....	Dearborn.....	Geo. Sutton, M. D.....	19	67	8	0	.....	3.75
Vevay.....	Switzerland.....	Chas. G. Boerner.....	19	69	9	2	32.3	4.06
Richmond.....	Wayne.....	John Valentine.....	19	61	8	1	25.9	3.20
Albion.....	Noble.....	Wm. Bonar.....	19	60	8	—4	24.0	.....
Spiceland.....	Henry.....	Wm. Dawson.....	19	61	8	2	27.3	3.10
Columbia.....	Whitley.....	Dr. F. & Miss McCoy.....	19	62	4, 5, 9	—4	22.5	1.29
Indianapolis.....	Marion.....	Dr. W. W. Butterfield.....	19	60	9	2	28.1	.....
New Harmony.....	Posey.....	Jno. Chappellsmith.....	19	63	20	10	25.5	2.64
ILLINOIS.								
Chicago.....	Cook.....	Samuel Brookes.....	12	38	20	—10	18.5	.....
Evanston.....	do.....	.....	12	45	20	—8	23.3	2.00
Marengo.....	McHenry.....	J. S. Rogers.....	12	41	20	—1	19.5	0.83
Riley.....	do.....	E. Babcock.....	12	39	20	—13	18.7	2.11
Golconda.....	Pope.....	W. V. Eldredge.....	19	69	20	—10	38.3	.....
Aurora.....	Kane.....	A. Spaulding.....	12	42	20	—10	20.3	1.97
Sandwich.....	DeKalb.....	N. E. Ballou, M.D.....	12	41	20	—11	18.6	2.10
Ottawa.....	La Salle.....	Mrs. E. H. Merwin.....	12	45	20	—12	21.9	2.85
Winnebago.....	Winnebago.....	J. W. & Miss Tolman.....	12	38	20	—14	16.7	2.49
Wyanet.....	Bureau.....	E. S. & Miss Phelps.....	6	50	20	—10	21.7	2.03
Tiskilwa.....	do.....	Verry Aldrich.....	12	44	20	—7	23.3	.....
Elmira.....	Stark.....	O. A. Blanchard.....	6, 31	45	20	—13	22.3	2.55
Peoria.....	Peoria.....	Frederick Brendel.....	12	46	20	—4	25.1	3.21
Springfield.....	Sangamon.....	G. M. Brikerhoff.....	6, 12	46	20	—1	26.0	.....

Table showing the range of the thermometer, &c., for January—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
ILLINOIS—Cont'd.								
Loami	Sangamon	Timothy Dudley	6	47	20	— 5	25.2	3.35
Dubois	Washington	Wm. C. Spencer	19	68	20	— 3	30.5	2.30
Galesburg	Knox	Pf. Wm. Livingston	12	45	20	—10	21.3	2.75
Augusta	Hancock	S. B. Mead, M. D.	29	55	20	— 9	25.6	3.52
Manchester	Scott	Dr. J. & Miss Grant ..	6	50	20	— 2	27.5	3.75
Clinton	De Witt	C. H. Moore			4, 5, 20	0		
Mount Sterling	Brown	Rev. A. Duncan	6	53	20	— 9	25.8	
Andalusia	Rock Island	E. H. Bowman, M. D. ...	12	45	20	— 8	22.6	1.68
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Läps	10	44	20	—12	19.5	2.63
Milwaukee	Milwaukee	I. A. Lapham, LL.D. ...	12	44	20	—10	19.8	2.58
Do	do	Carl Winkler	12	43	20	— 8	20.8	2.21
Ripon	Fond du Lac	Prof. Wm. H. Ward	10	46	21	—11	17.4	
Delavan	Walworth	Leveus Eddy	12	38	20	—12	17.5	1.86
Waupaca	Waupaca	H. C. Mead	28	42	20	—13	16.9	
Weyauwega	do	J. C. Hicks	28	45	20	—10	23.2	3.72
Embarrass	do	E. Everett Breed	28	40	21	—18	16.4	4.00
Rocky Run	Columbia	W. W. Curtis	28	42	20	—14	17.2	3.19
Baraboo	Sauk	M. C. Waite	28	44	20	— 7	21.2	6.97
Beloit	Rock	H. D. Porter	12	40	20	—13	18.0	1.10
Plymouth	Sheboygan	G. Moeller	28	41	20, 21	—15	16.5	2.20
MINNESOTA.								
Afton	Washington	Dr. & Mrs. Babcock	28	40	20	—20	10.0	
Bowles Creek	do	Andrew Stouffer	28	40	20	—22	10.5	2.25
St. Paul	Ramsey	Rev. A. B. Paterson	28	37	20	—20	10.4	2.00
Minneapolis	Hennepin	Wm. Cheney	28	41	20	—21	8.2	2.05
Forest City	Meeker	Henry L. Smith	10, 28	42	20	—23	16.4	
Sibley	Sibley	C. W. & C. E. Woodbury.	29	41	4	—27	9.8	3.50
New Ulm	Brown	Charles Roos	10, 28, 29	28	20	—18	12.4	1.27
IOWA.								
Clinton	Clinton	Dr. P. J. Farnsworth	12, 28, 29	42	4	— 5	19.8	2.80
Lyons	do	A. T. Hudson	13, 27, 29	36	16	0	19.5	2.78
Davenport	Scott	George B. Pratt	29	38	20	—10	18.1	3.39
Dubuque	Dubuque	Asa Horr, M. D.	12	39	20	—13	19.4	3.29
Muscatine	Muscatine	I. P. Walton	10	46	20	—11	19.3	4.16
Fort Madison	Lee	Daniel McCready	6, 29	45	20	—10	23.1	4.28
Monticello	Jones	Chauncey Mead	29, 31	36	20	—18	15.3	3.77
Guttenberg	Clayton	Philip Dorweiler	12, 28	35	20	—14	15.6	
Ceres	do	J. M. Hagensick	28	42	20	—18	16.3	
Manchester	Delaware	Allen Mead	12	40	20	—15	14.6	2.64
Mount Vernon	Linn	Prof. A. Collins	29	41	20	—13	18.4	
Iowa City	Johnson	T. S. Parvin, A. M.	6	47	20	—14	20.7	4.77
Independence	Buchanan	A. C. Wheaton	29	40	20	—18	13.5	5.70
Do	do	D. S. Deering	11, 12	36	20	—12	16.7	
			28, 29					
Waterloo	Black Hawk	T. Steed	29	42	20	— 8	15.1	
Iowa Falls	Hardin	N. Townsend	29	44	17	— 8	16.9	
Des Moines	Polk	Rev. J. A. Nash	10, 11	46	20	—11	19.2	

Table showing the range of the thermometer, &c., for January—Continued.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MISSOURI.								
St. Louis University.	St. Louis	Rev. F. H. Stuntebeck	12	57	20	4	23.7	3.88
Athens	Clark	J. T. Caldwell	29, 31	50	20	-8	20.8	2.86
Canton	Lewis	George P. Ray	29	52	20	-10	25.1	3.45
Harrisonville	Cass	John Christian	6, 29	52	20	-8	29.9	1.95
Easton	Buchanan	P. B. Sibley	6	50	20	-14	25.9	3.34
KANSAS.								
Olathe	Johnson	W. Beckwith	29	54	29	-12	26.5	2.70
Atchison	Atchison	Dr. H. B. & Miss Horn	11	50	20	-12	24.1	.....
Fort Riley	Davis	Jos. M. Shafer	11	55	20	-10	29.4	1.70
NEBRASKA TER.								
Elkhorn	Washington	John S. Bowen	11, 28, 31	45	20	-14	19.8	.....
Bellevue	Sarpy	Rev. Wm. Hamilton	29	46	20	-11	21.3	2.05
UTAH TER.								
Great Salt Lake city.	Great Salt Lake	W. W. Phelps	24	45	15	2	26.6	1.83

NOTES OF THE WEATHER, JANUARY, 1866.

FROM THE SMITHSONIAN INSTITUTION.

The meteorology of January, 1866, presents a number of prominent features of unusual interest. Among these is the extraordinary height of the barometer for several days, the maximum occurring on the same day (the 8th) at all the stations, as far as intelligence has been received, from Nova Scotia to the west and southwest. Only a few observers give one precise hour of the maximum, and it probably occurred in all or nearly all cases between the regular hours of observation. At the time of this high barometer, intense cold prevailed in New England and as far west as towards Ohio. This cold does not appear to have come from the west. On the night of the 19th, a remarkable thunder-storm occurred at the west, preceded by a very high temperature, and followed by a very sudden and great depression. This change gave the minimum of the month at the west, and prevailed in a modified form as far east as the registers extend. The time and space allotted to these monthly printed reports allow only a few memoranda of the more interesting features of the month in the following notes, and these not as systematically arranged as we would desire. The table which follows the notes presents a view of the temperature over a large portion of the country at the time of the severe cold at the east, and will be interesting to many observers who have wished to make comparisons, but have not had so ample materials as this table furnishes.

Wolfville, Nova Scotia.—The highest temperature of the month was at 9 p. m. on the 20th, $38\frac{1}{2}^{\circ}$; at the same hour next evening it was twenty-three degrees lower. The lowest temperature by the minimum thermometer was $11\frac{1}{4}^{\circ}$ below zero in the night of the 6th or morning of the 7th.

Gardiner, Maine.—The barometer rose to an unusual height on the 8th of January, (30.882 reduced.) The maximum occurred at midnight of the night of the 7th—8th. Only two or three times has so great a height been recorded here. The average temperature of the month for thirty years is 18.05° . This year is nearly three and two-thirds degrees colder than the average. There have been eight Januaries in the thirty years as cold or colder. The extreme cold was only 20° below zero, but the continuance of the mercury below zero for four days, from the 5th to the 8th, was remarkable. The severe drought from which the whole of New England is suffering still continues; the entire moisture of the month has been 1.626 inch; only three Januaries are recorded where the moisture has been so little.

Steuben, Maine.—January 11.—To-day is the first day for a week that it has thawed any, even in the sun and out of the wind; the ground is cracked and the road broken into by cracks.

Standish, Maine.—January 29.—In digging a grave found frost in the ground to the depth of thirty inches. It was on a place that had been bare till within a week.

West Waterville, Maine.—January 7.—This has been the coldest day since February 8, 1861. The thermometer then went down to 29° below zero; to-day 23° below. The mean temperature of that day was 22.67° below zero; to-day 14.67° below. There is but about six inches of snow now, and the ground is frozen about one foot.—27th. Snow from 10 a. m. of the 25th to 9 a. m. on the 27th; the severest storm of the winter thus far; fourteen and a half inches of snow fell.

Webster, Maine.—January 6.—Found the ground frozen about a foot.

Stratford, New Hampshire.—The thermometer was below zero on eleven days in this month. From the 5th to the 8th inclusive, it was below zero all the time. On the 20th it thawed a little, but on no other day during the month.

There is no more water in the wells, springs, and brooks. It is the driest January the observer has ever known here.

Shelburne, New Hampshire.—January 1.—Brooks and rivers are very low; some wells and springs which have seldom or never failed before, are dry now. 13th.—The ground is frozen hard to the depth of two feet; some frost to the depth of three feet. 21st.—From ten o'clock last evening to three or four this morning, the wind blew with great force, almost or quite a hurricane. 31st.—Rivers, brooks, and springs never known so low at this time of the year as now.

Claremont, New Hampshire.—A remarkable drought prevails, and streams are very low. At the time of the severe cold, from the 5th to the 9th, there was almost no snow, and the ground froze very deep; freezing cellars which had never been subject to frost before. Large quantities of potatoes and other vegetables have been injured.

Lunenburg, Vermont.—The month, on the whole, has been mild, and much less snow has fallen than for many years before. At the close of the month, however, sleighing is good, but the depth of the snow is not sufficient for logging.

East Bethel, Vermont.—January 7.—Loud explosions were heard through the night from frozen earth bursting, and leaving cracks half an inch wide in many places. 8th.—For four days the temperature has been below zero all the time, and the wind from the northeast. Nights resound with loud snapping in the woods, and travelled roads crack open with loud noise, jarring houses; cellars are freezing; little rivulets are lost in beds of ice. 15th.—Wind blew violently all night; calmed down at 7 a. m. Sleighing poor; not over two inches on a level; ground frozen from two to three feet.

Georgetown, Massachusetts.—The cold term in the early part of this month was remarkable for its length. February 8, 1861, far exceeded it in intensity, the mean temperature for the a. m. being 19.2° below zero, and for the p. m. 9.8° below; but such a depression of the mercury was of short continuance.

Richmond, Massachusetts.—Up to January 4 the season was remarkably mild and pleasant. On the morning of the 4th a dense fog hung over the lowlands, and every tree, shrub, and spire of grass was thickly and beautifully encased with frost. The morning was cloudy. At a few minutes past two p. m. the clouds gathered blackness in the northwest, and the wind changed from the southwest to that direction, accompanied by a short snow-squall. Here the cold time commenced, and continued till the 10th; the lowest temperature being on the morning of the 8th.

Westfield, Massachusetts.—The month of January has been unusually dry. Streams are low; some mills cannot run full time; wells are becoming dry. There has been no such weather here for many years.

Williamstown, Massachusetts.—At 10 a. m. on the 8th of January, the barometer was higher than before recorded here.

Groton, Connecticut.—January 31.—The river at this place (opposite New London, on the river Thames) has been open all winter, not even being skimmed across with ice, and vessels have been constantly going up and down the river to Allen's Point, five or six miles above this place. Frost supposed to be about eighteen inches deep in the ground.

Pomfret, Connecticut.—This month has been very dry; many of the mills in this region have stopped for want of water. The amount of rain and melted snow is less for this month than in any January for the last thirteen years.

South Hartford, New York.—January opened very mild and pleasant, and during the first four days the little remaining snow upon the hillsides slowly disappeared. The cold period from the 5th to the 10th is unequalled here, both for its severity and duration; the mercury remained below zero for ninety hours. Combined with the cold was the failure of water in many instances. The wells and streams filled up very late in the autumn, and then to a less ex-

tent than usual; in consequence they are now quite low. The latter portion of January has been very pleasant. At the end of the month there is barely sufficient snow for sleighing.

Garrison's, New York.—January has been marked by much overcast weather, and frequent rain and snow; but the aggregate is less than last year in the same month, and streams are correspondingly low. It is feared the alternate exposure and snow has already done much injury to grain and fruit. The river at this point remains firmly closed, and crossing for all purposes of traffic is safe.

South Trenton, New York.—Distant thunder on the 20th, with heavy rain. Water is very low in wells, and the ground frozen, on an average, fourteen inches.

Theresa, New York.—Distant thunder in the west on the 20th a little before 7 a. m.; twenty-three peals, forked lightning; passed off to the north about 9 a. m.

Nichols, New York.—There was hardly a day of good sleighing in January, and when the ground was covered with snow at all, it was generally not more than two inches, and every few days the ground was wholly bare. The cold on the 7th and 8th was more intense than before in a number of years.

Palermo, New York.—January 1.—The winter thus far has been unusually open and mild. 9th.—The sky for the past few days has been very dark blue, and the cold has been more intense and of longer duration than for a number of years. 10th, temperature of water in well 44°. 31st.—This has been the coldest January but one during the past eight years; the coldest was in 1863.

Hector, New York.—January 7.—The cold weather has killed the peach buds. 31st, temperature of water in a well 32 feet deep, 47°.

Depauville, New York.—January 5.—Yesterday there was good boat crossing on the river St. Lawrence, (at Clayton, six miles from here,) but the river froze over last night, and affords this morning good crossing on the ice. 19th, sleighing since the 13th. On the 16th and 17th the snow drifted in the roads, and is in some exposed places three feet deep. On Chaumont bay the ice is now twenty inches thick. 20th, lightning from dark clouds in the northwest at 3.30 a. m.; thunder-storm north at 6.25 a. m.; six thunder claps were counted, of which the fourth was the loudest, shaking buildings and striking a stump about a mile northwest from here; there was a heavy but short shower. 31st, good sleighing since the 25th.

Buffalo, New York.—The winter thus far has been an open one, only twenty-six inches of snow in all. The first snow in January to whiten the earth came on the 4th, and the first to make sleighing on the 16th. The mean temperature of the month was five and a half degrees lower than the average for eight years. Lake Erie was closed at this point on the 6th. There were severe gales on the 16th, 20th, and 21st.

Newburgh, New York.—During the latter part of December, and up to January 4, the weather had been very moderate, but in the afternoon of the 4th the wind changed to the northwest, and by the morning of the 5th the thermometer had fallen to 4°. In the afternoon of the 6th the river closed, and on the 8th people crossed all day on the ice.

New York city, (Columbia College.)—January 8.—The moisture formed by the burning gas froze inside of the street lamps; oil lamps in the street cars were extinguished by the oil congealing. A high wind from the northwest has prevailed for two days. A professor and several students of the school of mines had their ears badly frozen this morning. The barometer has been higher than ever recorded here before. Although the temperature was lower than for many years, the average of the day was not so low as on the 3d of February, 1855.

Fishkill, on Hudson, New York.—The cold of the 7th and 8th has probably killed the peach, cherry, and plum buds.

Rochester, New York.—The highest temperature of the month was at 7 a. m. on the 20th, 51°; at the same hour next morning it was 7°.

Newark, New Jersey.—The mean temperature of January was more than three degrees and three-quarters below the average of the month for the last twenty-two years, and the minimum temperature on the morning of the 8th was unprecedented during the whole of that period. Coincident with the extreme cold a remarkable rise occurred in the barometer, the mercury attaining 30.955 inches, (reduced to the temperature of 32°,) which is a higher stage than at any time since the barometrical observations commenced in April, 1845. The height of the station above the sea is about thirty-five feet.

Haddonfield, New Jersey.—In the afternoon of the 7th a rapid decline of temperature began with a fresh northwest breeze which was piercing cold. The mercury sank from 23° at 7 a. m. to 2° below zero at 9 p. m., and by the indications of a self-registering thermometer to 14° below during the same night, or early on the morning of the 8th; at 7.20 a. m. of the 8th it was 12° below by Green's standard thermometer. On January 24, 1857, the temperature was 12° below zero. The observer is not aware of a lower temperature having been recorded at this place. The barometer reached its maximum at 7.15 a. m. of the 8th, when it stood at 30.532 inches, (reduced.) Height of station about fifty feet.

Greenwich, New Jersey.—The temperature on the 8th was lower than has been remembered for nearly nine years, and the barometer rose higher than ever before during the seven years the observer has had the instrument. Cohansey creek, which was free of ice on the evening of the 7th, was frozen next morning for the first time this season.

Trenton, New Jersey.—January 8.—Delaware river frozen over; ice in canal eight inches thick. This morning (12° below zero) is the coldest since January 24, 1857, when the thermometer stood 17° below.

New Brunswick, New Jersey.—Barometer at 7 a. m., January 8, reduced, 30.967. Height of station eighty feet.

Philadelphia, Pennsylvania.—January 8.—This was the coldest day of the winter. Early in the morning the thermometer indicated a temperature of 9° below zero, the lowest during the whole time of these observations, now fifteen years. The mean temperature of the whole day was 23°. The mean temperature of the 9th of January, 1856, was 1° below zero; with that exception, this was the coldest day observed. The barometer at 7 a. m. this morning was 30.757, the highest for fifteen years.

Grampian Hills, Pennsylvania.—The month of January has been mostly very favorable for out-door work; the roads generally hard; no great depth of snow; little or no mud; snows mostly light; no heavy rains, floods, or drifts.

Harrisburg, Pennsylvania.—January 9.—The Susquehanna river closed with ice.

Horsham, Pennsylvania.—January 8.—The thermometer said to be lower and the barometer higher this morning than ever known here before.

Fallsington, Pennsylvania.—January 8.—Remarkable for the highest barometer recollected. Delaware river closed.

Byberry, Pennsylvania.—January 8 was the coldest day known here for many years. Ice six inches thick.

Nazareth, Pennsylvania.—January 6.—Temperature of a spring of running water 50°. 8th.—Last night was the coldest known here for many years.

Dyberry, Pennsylvania.—January 8.—Between 7 and 8 a. m. the temperature was 23° below zero, the coldest since January 24, 1857, when it was 28° below zero. 19th, ice on natural ponds ten inches thick. 31st.—There has been no really good sleighing yet this winter; each fall of snow coming on dry frozen ground, would not pack well, and melted in places before another came. Lumbermen seldom have so poor a winter to get their lumber to the mills and streams.

Atlanta, Georgia.—Temperature on the 19th at 7 a. m. 60°, at 2 p. m. 71°.

at 9 p. m. 62° ; on the 20th, at 7 a. m. 61° , at 2 p. m. 40° , at 9 p. m. 25° . January 24.—At 3 p. m. heavy thunder and lightning in the west.

Jackson, Mississippi.—January 19 was unpleasantly warm, the warmth lasting till after midnight. About 4 o'clock a. m. of the 20th, a violent storm of wind and rain came on, accompanied with thunder and sharp lightning. The temperature fell below freezing point by daylight and appeared to continue falling all day. The storm, with the change of temperature, but without the thunder and lightning, extended at least to Vicksburg and Meridian.—*Correspondence.*

Helena, Arkansas.—The warmest day of the month was the 19th, mean temperature $72\frac{2}{3}^{\circ}$, and the next day was the coldest, mean temperature $22\frac{2}{3}^{\circ}$.

Wytheville, Virginia.—January 8.—Barometer at 2 p. m. and 9 p. m. 28.418. This is much higher than has been recorded before. The position is two thousand two hundred and fifty-seven feet above the sea.

Beaufort, North Carolina.—January 8 was the coldest day of the winter: ice an inch thick formed in the ponds and creeks. A terrific gale set in from the north and proved very destructive to commerce. Thermometer 12° . It was something remarkable for this climate.

Clarksville, Tennessee.—January 8.—The barometer was higher (the observer thinks) than it has been in the last fifteen years; at 11 a. m. it stood for a short time at 30.500 inches, which is nearly an inch above the annual mean. 20th, yesterday was very warm, the mean temperature 69.87° . The wind was quite fresh from the southward, increasing to a gale after dark. Between 9 and 10 p. m. faint flashes of reflected lightning at the northern horizon. Rain from $9\frac{3}{4}$ p. m. to midnight, then snow till about $4\frac{1}{2}$ o'clock this morning, covering the ground to the depth of two and a half inches. At 9 o'clock last night the temperature was 71° , at 7 o'clock this morning 17° , a fall of fifty-four degrees in ten hours.

Nashville, Tennessee.—The newspapers mention a severe gale at Nashville in the night of the 29th, blowing down several houses, and that in Edgefield, opposite Nashville, the mercury fell to 8° below zero, with an inch and a half of snow.

Olmstead Station, Logan county, Kentucky.—The storm of Friday night, January 29, was one of the most terrible ever experienced in that section of the country. The weather was excessively warm up to midnight, when it commenced blowing and raining. Every house in its track, which seemed to be one mile in width, was more or less damaged. The fences for miles were blown away, leaving the country bare of them.—*Newspaper.*

Danville, Kentucky.—The thermometer fell from 64° at 9 p. m. of the 19th, to 24° at 7 a. m. of the 20th, and to 8° at 7 a. m. of the 21st.

Louisville, Kentucky.—In the night of the 19th of January, at midnight, a storm suddenly came up with a strong blow from the west, followed by heavy rain, accompanied with occasional peals of thunder, the storm closing with a light fall of snow. The thermometer in six hours changed from 68° to 15° , a fall of fifty-three degrees from midnight to daybreak.

Chilesburg, Kentucky.—On the 19th the temperature at 9 p. m. was 64° ; at the same hour the next evening it was 12° .

Westerville, Ohio.—During the night of the 19th there was a heavy storm of rain accompanied with thunder and lightning, and considerable wind; afterwards hail, and, on the morning of the 20th, an inch of snow was on the ground, and the thermometer, which at 9 p. m. of the 19th stood at 61° , had fallen to 20° at 7 a. m. of the 20th, and to 6° at 7 a. m. of the 21st.

New Lisbon, Ohio.—January 8.—The highest barometer ever observed in this section of the country. 13th, heavy rain last night, with high wind, sharp lightning, and heavy thunder; air this morning clear and bracing. Thermometer 60° at 9 p. m. of the 19th, 48° at 7 a. m. next morning, and 8° at 7 a. m. of the 21st; no rain mentioned.

Cleveland, Ohio.—January 8.—The barometer stands thirty-six hundredths of an inch higher to-day than at any time for seven years past. 12th, lightning and thunder about 10 p. m. 19th, thermometer at 9 p. m. 58° ; 20th, 7 a. m., 28° ; 21st, 7 a. m., 6° ; rain and snow in the night of the 19th.

Kelley's Island, Ohio.—January 8.—Barometer attained its maximum at 10 a. m., and remained stationary for an hour, being higher than the observer had ever before recorded. At 12 m. the top of the column was concave, but not perceptibly lower; at 1 p. m. it had fallen five hundredths of an inch. 19th, thermometer at 9 p. m. 44° ; at the same hour next night 7° .

Kingston, Ohio.—January 8.—The barometer is higher to-day than the observer ever saw it before. 20th, about two o'clock this morning a thunder-storm came up, which was followed by a high northwest wind and a fall of temperature. At 9 p. m. of the 19th the thermometer was 62° , and at the same hour next night it had fallen fifty degrees.

East Fairfield, Ohio.—January 8.—The barometer was at the highest from 10 to 11 a. m. 13th, a thunder gust came up about midnight last night, accompanied with some hail. 20th, the wind was high from midnight till 4.15 a. m., when it was attended by a sudden gust of heavy rain, apparently from the west, lasting only five minutes. There were a few light showers afterwards till 8 a. m., when it commenced snowing.

Urbana, Ohio.—January 8.—At 2 p. m. the barometer stood at 30 inches, (reduced to freezing point.) The observer has never seen it higher during the thirty-three years of his observations. The barometric wave was over six days in passing. 20th, a violent thunder-storm began at about 1 a. m.; the thunder continued an hour and a half; there was some hail in the early part of the storm, and the rain was followed by snow. At 2 o'clock the thermometer, then standing at 61° , began to fall, and in five hours it fell fifty-one degrees.

Toledo, Ohio.—January 8.—The highest barometrical reading that was ever observed in this vicinity occurred at 2 p. m. The barometer was several days rising and also in falling. The only other phenomenon attending it was the extreme cold. 19th, thermometer at 2 p. m., 54° ; at 9 p. m., 57° . A shower of rain occurred soon after midnight, accompanied with sharp thunder and lightning. Temperature at 7 a. m. on the 20th, 10° .

Marion, Ohio.—January 12.—Thunder shower at 9 p. m., with frequent and vivid flashes of lightning and heavy thunder; wind from the southwest, and the shower passing over the village. 20th, thunder shower at 2 a. m., passing apparently from southwest to northeast.

Bethel, Ohio.—January 12.—Lightning in the north at 9 p. m. 15th, thunder overhead at $4\frac{1}{2}$ p. m., once only; lightning in the north at 8 p. m. 20th, in the morning, rain, hail, and snow, with thunder and lightning.

Cincinnati, Ohio.—Storm of Friday night, January 19, was very severe in this neighborhood; at Lexington, Kentucky, trees were torn up, fences prostrated, and chimneys overthrown.—*Newspaper.*

Monroe, Michigan.—January 19.—Temperature at 9 p. m., 45° ; at 7 a. m. 20th, 14° ; at 7 a. m. 21st, 4° ; no rain mentioned; gale from the northwest on the 20th.

Oshtemo, Michigan.—January 20.—Shower last night, with sharp lightning and some heavy thunder. It rained and froze and then snowed.

Homestead, Michigan.—January 20.—Rain last evening from the southwest, which is uncommon here in winter; wind strong from northwest before morning. Thermometer at 9 p. m. of the 19th, 33° ; next morning at 7 a. m., zero.

Holland, Michigan.—January 19.—Little drizzly rain early in the morning and afternoon; harder at night, with diffused lightning; changed to colder at 11 p. m. 20th, rained a little and snow the past night; snowing all day; very blustering night and day; great fluctuations in temperature in the forenoon—sometimes ten degrees in fifteen minutes.

Lansing, Michigan.—January 8.—At noon the barometer was higher than ever known here. 19th, rain, attended with lightning, at 11 o'clock p. m. This rain was attended and followed by a gale and rapid fall of temperature—falling from 47° at 9 p. m. of the 19th to 1° at the same hour on the 20th.

Detroit, Michigan.—January 20.—During the storm last night sharp flashes of lightning were frequent. The wind suddenly changed to the northwest, and the thermometer fell forty-eight degrees in six hours.—*Newspaper.*

New Harmony, Indiana.—January 8.—At 7 a. m., the highest barometer at this station during the last fourteen years. 19th, thunder-storm during the night, followed by the first snow of the season. The 19th was the warmest day of the month, mean temperature 61° ; the next day was the coldest, mean temperature $13\frac{3}{4}^{\circ}$.

Balbec, Indiana.—January 8.—The barometer was several tenths higher this forenoon than it has been at any time during the two years these observations have been taken. 15th, frozen rain and sleet last night; 3 p. m., thunder gust from the southeast, general rain, heavy thunder, forked lightning. 19th, lightning in the northwest at 9 p. m.; hard thunder gust before midnight; thermometer fell from 62° at 9 p. m. to 2° next morning at 7 a. m. The 19th was the warmest day of the month, mean temperature $59\frac{2}{3}^{\circ}$, and the 20th the coldest, mean temperature $3\frac{3}{4}^{\circ}$.

Veray, Indiana.—January 20.—Yesterday was mild and spring-like, and the warmest day of the month; thermometer at 9 p. m. 68° ; near 11 p. m. a strong gale commenced blowing from the southwest, which was followed by a terrific thunder-storm, with frequent vivid flashes of lightning and sharp thunder; thermometer 70° . The storm moved in a northeast direction, and continued till 12.30 a. m. 20th, when the wind changed to northwest, and the rain to a brisk snow-storm. The thermometer at 5 a. m. indicated 14° , showing a fall of fifty-six degrees in six hours. One inch of snow fell in the night. Fifteen miles north of here a barn was struck by lightning and consumed.

Indianapolis, Indiana.—The 19th was the warmest and the 20th the coldest day of the month, the mean temperature falling fifty and a half degrees.

Indianapolis, Indiana.—January 21.—A tremendous thunder-storm prevailed yesterday morning, and suddenly the mercury fell forty degrees, freezing everything tight and blockading railroad travel. We are now experiencing the severest weather of the winter thus far.—*Newspaper.*

Fort Wayne, Indiana.—January 20.—Yesterday was warm and sultry as May. At 10 o'clock p. m. an unusual rain, attended with lightning, thunder, hail and wind, commenced falling, and soon the street gutters were full, and even the pavements flooded. The thermometer indicated a fall of fifty-two degrees from 9 o'clock last evening to 7 o'clock this morning. 24th, quite a snow fell on Monday night, the 22d, and we have now the best sleighing of the season so far; snow from four to six inches deep, and still snowing; the roads hard and smooth.—*Newspaper.*

Albion, Indiana.—There were thunder-storms on the 15th and 19th. The weather did not become much colder after the first thunder, but on the night of Friday, the 19th, there was a very sudden change, the temperature falling from 60° that night to 2° next morning.

Columbia City, Indiana.—January 15.—Thunder in the west with rain in the afternoon; at 4 p. m. the lightning struck a large hickory tree three-quarters of a mile from the centre of the town. 19th, a warm rain in the afternoon, and more rain after dark; thunder at 9 p. m., and rain from 10 to 12 p. m.; considerable hard thunder and lightning, striking frequently some distance off; wind high, and much timber blown down in the neighborhood. At 2 p. m. the temperature was 54° ; at 9 p. m. 62° ; after midnight it turned cold, and by the morning of the 20th the thermometer had fallen to zero. The 19th was the warmest day of the month—mean temperature $50\frac{2}{3}^{\circ}$; and the 20th the coldest—

mean temperature $32\frac{1}{2}^{\circ}$. These sudden changes have caused a more than usual amount of sickness. Ground frozen forty-one inches in the graveyard at the end of the month.

Aurora, Indiana.—On the 7th, 8th, and 9th, the barometer was higher than the observer ever before saw it; the highest was on the 8th. This great atmospheric wave did not seem to produce any effect on the health of the community. 20th.—There was a severe thunder-storm last night; between midnight and 2 a. m. this morning the wind changed suddenly to the northwest. At 9 o'clock last night the thermometer indicated 65° ; at 7 this morning 10° . The prevailing diseases of the month, in this section of country, have been of an inflammatory character, with occasional cases of diphtheria—none of them extremely malignant.

Spiceland, Indiana.—January 8.—At 10 a. m. the barometer stood half an inch higher than at any former period since June, 1861, when the observer began to keep a record. 20th.—There was considerable rain, with lightning, thunder, and some hail, about the middle of last night, and a little snow between then and daylight. The thermometer yesterday, at 2 and 9 p. m., stood at 61° , and about 9 o'clock this morning at 5° .

Richmond, Indiana.—January 8.—Barometer reached its maximum at 9 o'clock this morning. 20th.—Yesterday was a very warm day, and it became warmer after night, with frequent flashes of lightning across the west. At 11 p. m. the thermometer was 63° , the highest the observer ever saw it in January. At this time there was a heavy cloud across the west, and the vivid flashes of lightning were followed by heavy thunder, while a strong south wind blew so warm that a person might imagine himself in the middle of summer; rain and hail, and afterwards snow, from 11.30 p. m. till between 2 and 3 this morning. The thermometer fell fifty-six degrees in eight hours, and the barometer fell .603 in the same time; the most rapid change the observer has on record.

Dubois, Illinois.—January 11.—Depth of frost in the ground six inches; thickness of ice on ponds and creeks, four inches. 15th, heavy thunder in the west from 8 to 10 a. m.; a violent storm of wind from the west from 2 a. m. till 6 p. m. 19th, exceedingly warm for the season; temperature at 11 a. m. 70° ; frost nearly all out of the ground; wild geese and ducks flying north; diffuse lightning in the southwest at 5 p. m.; terrific thunder-storm at $6\frac{1}{2}$ p. m. from the west, the wind blowing a violent gale—changed to the northwest at 8 p. m.; commenced snowing and sleeting, and became intensely cold; the thermometer indicated 62° at 5 p. m.; and on the 20th, at 5 a. m., 3° below zero—a fall of sixty-five degrees in twelve hours. 23d, diffuse lightning in the south at $4\frac{1}{2}$ p. m., with distant thunder. 29th, blue birds singing like spring.

Golconda, Illinois.—January 19.—At 10 p. m. the thermometer stood at 70° , very close and oppressive, with appearance of a heavy storm in the northwest; at $10\frac{1}{2}$ the storm burst; very sharp lightning with heavy and quick thunder, and for a short time heavy hail. At $11\frac{1}{4}$ the storm was over and the sky clear, and thermometer 28° . At 4 o'clock next morning the thermometer was 10° .

Marengo, Illinois.—January 8.—Barometer the highest ever observed at this station. 19th, snow from 4 p. m. to 9 p. m., four inches.

Manchester, Illinois.—January 19.—Thunder about from 7 p. m. to 11 p. m., with very vivid lightning from the west.

Augusta, Illinois.—January 15.—Shower, accompanied with some thunder and lightning, between 4 and 5 p. m. 19th, a mist from 9 a. m. to 1 p. m., then sleet or hail, and, at last, snow. 23d, snow twelve to fifteen inches deep; good sledding to the 29th, and rather poor to the 31st.

Winnebago, Illinois.—January 8.—The barometer at 7 o'clock this morning was .460 inches higher than any previous observation recorded here, and more than an inch above its normal height at this station. 15th, first sleighing this season. 19th, heavy fall of sleet or frozen rain from 3 to 7 p. m.

Clinton, Illinois.—January 12.—Lightning in the east a little after sundown. 19th, lightning and thunder, commencing at 6 30 p. m.

Aurora, Illinois.—January 8.—The barometer to-day stood higher than the observer ever saw it before in this vicinity. 19th, diffuse lightning in the southwest, with some distant thunder; it rained at the time, and the wind was strong from the west. The ground is frozen to the depth of fifteen inches.

Springfield, Illinois.—January 19.—At 6 p. m. rain, sleet and snow, with heavy thunder and vivid lightning. The storm was one of the most severe thunder-storms that has occurred for a year.

Chicago, Illinois.—Heavy thunder-storm on the night of the 19th. The storm having been extensive and severe in distant places, many of the trains on the railroads were detained on Saturday, the 20th, for several hours, by the accumulation of ice and drifting of snow on the tracks.—*Newspaper.*

Chicago, Illinois.—The temperature at 9 p. m. on the 19th was 24° ; at 7 a. m. the next day— 10° .

Mount Sterling, Illinois.—"No thunder-storm this month in this place."

St. Louis, Missouri.—January 12.—This morning the ice in the river opposite the city moved about a hundred and fifty yards, destroying two boats. The river is gorged above and below the city. 19th, wind from southwest about $4\frac{1}{2}$ p. m., continually increasing till about 7 p. m. Rain, hail, or snow from 6 p. m. till late in the night; one long roll of thunder at 6.20; saw no lightning.

Canton, Mo.—Jan. 31.—There has been good sleighing ever since the 19th.

Harrisonville, Missouri.—January 15.—About $3\frac{1}{2}$ a. m. commenced heavy thunder and lightning in the southeast, accompanied with some hail and rain; became more distant towards the southwest by 5 a. m., and died off about $6\frac{1}{2}$ a. m.

Athens, Missouri.—The month of January has been rather remarkable; a great deal of snow and rain fell; the usual January thaw occurred with greater force than common. On the 12th, at 9 p. m., the Des Moines river broke up, ice nine inches thick; water rose ten feet. The ice gorged here on the 14th. Heavy lightning, accompanied by deep thunder, with sleet and rain, at 7 a. m. on the 15th. On the 18th, at 11 p. m., shock of an earthquake for five minutes from southwest to northeast.

Rocky Run, Wisconsin.—The 20th was the coldest day of the month; thermometer below zero all day; also below zero on the mornings of the three following days.

Baraboo, Wisconsin.—January 31.—The weather for the month has been mild and pleasant, with but three or four extremely cold days. Since the 11th sleighing has been very fine. High winds were less in December and January than for the past eighteen years.

Embarrass, Wisconsin.—January 4.—The Wolf and Embarrass rivers frozen over. 8th, the ground frozen sixteen inches deep. 19th, thermometer 20° at 9 p. m., and 14° below zero next morning.

Beloit, Wisconsin.—The height of the barometer at 7 a. m. on the 8th is almost unparalleled in this section.

Manitowoc, Wisconsin.—Thermometer at 9 p. m. on the 19th 17° , next morning 17° below zero.

Delavan, Wisconsin.—January 8.—The barometer the highest noticed within nearly three years.

Milwaukee, Wisconsin.—January 8.—At 10 a. m. the barometer reached its maximum, a quarter of an inch higher than ever before known here.

Plymouth, Wisconsin.—January 19.—Lightning from 6 p. m. to about 9 p. m.

Minneapolis, Minnesota.—Greatest depth of snow for many years, forty-three and three-quarter inches having fallen in December and January.

Forest City, Minnesota.—January 18.—During the day the thermometer changed several times, varying from 10° below zero to 6° above zero in thirty minutes. The temperature was below zero on every day from the 16th to the 22d inclusive.

Sibley, Minnesota.—January 19.—Snow every day, except one, from the 9th to the 19th inclusive. On the 19th there was a severe storm, with heavy

wind, so that objects could not be distinguished ten feet distance. The thermometer sunk to 27° below zero, and a good many persons were badly frozen. Three men perished in this place by being lost or bewildered within a few rods of their own houses. The thermometer was below zero every day from the 16th to the 22d inclusive.

New Ulm, Minnesota.—Thermometer below zero every day from the 16th to the 22d inclusive.

St. Paul, Minnesota.—Thermometer below zero every day from the 16th to the 22d inclusive; also on the 14th and 24th.

Afton, Minnesota.—January 21.—The deepest snow that has been for twenty-seven years. Thermometer below zero every day from the 16th to the 22d; also on the 14th and 24th.

Davenport, Iowa.—Thermometer below zero only at 9 p. m. on the 19th and all day on the 20th.

Muscatine, Iowa.—January 8.—At 9 a. m. the barometer was higher than it has been for many years. The thermometer was below zero only at 7 a. m. of the 5th, 9 p. m. of the 19th, all day on the 20th, and 7 a. m. on the 25th.

Dubuque, Iowa.—January 8.—Unprecedented rise in the barometer. It culminated at 11 a. m., reaching 30.459, (reduced to 32° .) It has never been but slightly above thirty inches during the past fifteen years that the observer has kept a record, and then only three or four times, and but part of a day. On this occasion it remained for three days above thirty inches. A very unusual occurrence also is the presence of clouds with so great a pressure of the atmosphere. 19th, brisk snow-storm, with high northwest wind, and some sleet from 3.30 p. m. to 5 p. m.; wind blew a gale all night from northwest. Temperature below zero only at 7 a. m. on the 18th, 9 p. m. on the 19th, and all day on the 20th.

Des Moines, Iowa.—The weather during the former part of the month was delightful, the sky almost entirely cloudless, and the slightest perceivable wind.

Mount Vernon, Iowa.—The thermometer below zero only on the 5th, 18th, 19th, and 20th.

Fort Madison, Iowa.—January 17.—Wild geese going north at 9 a. m. Thermometer below zero only at 7 a. m. of the 20th.

Lyons, Iowa.—No observation recorded below zero during the month, and only once at zero, at 7 a. m. on the 16th.

Manchester, Iowa.—January 29.—Ground frozen three feet deep; snow on the ground about seven inches; there has been excellent sleighing for near three weeks.

Clinton, Iowa.—January has been a fine winter month, with a few disagreeable days; for the most part rather mild and very pleasant winter weather. Good sleighing from the 16th to the end of the month. Thermometer below zero only at 7 a. m. of the 1st and 4th. At zero on the 5th, 18th, 19th, and 21st.

Fort Riley, Kansas.—Thermometer below zero only on the 19th and 20th; at zero on the 18th.

Olathe, Kansas.—On the night of the 14th and morning of the 15th a heavy shower, accompanied with thunder and lightning. Thermometer below zero only in the night of the 19th and morning of the 20th.

Atchison, Kansas.—Jan. 11.—Diffuse lightning in the south and southeast during the evening. 19th, severe snow and wind storm all day, blowing a gale from the northwest. Thermometer below zero only on the 18th, 19th, and 20th.

Elkhorn City, Nebraska.—January was stormy and cold, except the last few days. The thermometer was below zero on each day from the 16th to the 21st inclusive, but on no other day.

Belleve, Nebraska.—Most of the snows drifted very much, and the sleighing was not very good. Thermometer below zero on each day from the 16th to the 21st inclusive, and on no other day.

Great Salt Lake City, Utah.—The 19th (mean temperature 19°) was the coldest day of the month, except the 1st, 4th, 5th, and 15th.

*Temperature and wind at 7 a. m. from the 5th to the 10th of January, 1866.
(Fractions of a degree are omitted in the following table.)*

Place.	January 5.		January 6.		January 7.		January 8.		January 9.		January 10.	
	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.
NOVA SCOTIA.												
Wolfville.....	17	W.	-4	W.	-10	NW.	-5	NE.	5	NW.	16	NE.
MAINE.												
Steuben.....	-7	NW.	-15	NW.	-20	NE.	-15	NE.	5	N.	11	N.
Lee.....	-10	NW.	-22	NW.	-28	NW.	-20	NW.	1	N.	2	NE.
West Waterville.....	-10	NW.	-13	NW.	-23	N.	-11	N.	10	N.	20	N.
Gardiner.....	-10	NW.	-12	NW.	-18	NE.	-17	.....	9	NE.	14	.....
Lisbon.....	-10	NW.	-13	N.	-18	N.	-18	N.	.....	N.	.....	N.
Webster.....	-8	NW.	-11	NW.	-16	N.	-16	NW.	3	N.	19	NW.
Standish.....	-8	NW.	-9	NW.	-17	N.	-12	N.	12	N.	22	N.
Cornish.....	-10	NW.	-8	NW.	-16	NE.	-14	NW.	12	NW.	22	NW.
Cornishville.....	-10	W.	-10	NW.	-16	NE.	-18	W.	12	W.	24	W.
NEW HAMPSHIRE.												
Stratford.....	-23	NW.	-23	0	-33	0	-27	N.	-10	0	-5	N.
Shelburne.....	-12	W.	-13	W.	-17	W.	-18	W.	5	W.	15	W.
North Barnstead.....	-10	NW.	-2	NW.	-9	W.	-15	W.	6	W.	18	W.
Claremont, (Mead).....	-12	NW.	-12	NW.	-10	NW.	-20	N.	-6	NW.	8	NW.
Claremont, (Chase).....	-12	N.	-4	W.	-12	N.	-20	NW.	-6	W.	8	N.
VERMONT.												
Lunenburg.....	-17	N.	-22	N.	-31	N.	-26	N.	-17	N.	-6	NE.
Craftsbury.....	-23	NW.	-18	W.	-24	NE.	-25	N.	-12	SW.	-4	0
Middlebury.....	-16	N.	-13	N.	-21	N.	-18	N.	-1	N.	8	N.
Brandon.....	-2	NW.	-2	N.	-20	N.	-5	N.	-4	N.	8	NW.
Randolph.....	-14	NE.	-8	NE.	-20	NE.	-17	NE.	-8	NE.	-2	NE.
MASSACHUSETTS.												
Lawrence.....	2	NW.	8	SW.	-7	NE.	-15	NW.	5	NW.	18	NW.
Topsfield.....	9	NW.	18	SW.	6	NW.	-1	NW.	15	NW.	20	NW.
Georgetown.....	-5	NW.	9	N.	-7	NE.	-16	NE.	4	NW.	16	NW.
Newbury.....	-4	NW.	8	NW.	-6	N.	-16	NW.	2	NW.	9	NW.
Cambridge.....	-2	NW.	8	SW.	-2	NE.	-17	N.	4	N.	17	N.
New Bedford.....	5	NW.	17	SW.	8	NW.	-11	NW.	10	NW.	20	NW.
Worcester.....	1	NW.	3	SW.	2	NE.	-15	NW.	5	NW.	20	NW.
Mendon.....	6	NW.	11	SW.	5	NE.	-17	NW.	12	N.	25	NW.
Amherst.....	-1	NW.	10	SE.	0	N.	-14	NW.	4	N.	19	N.
Westfield.....	0	.....	10	.....	1	.....	-16	.....	3	.....	12	.....
Richmond.....	-10	NW.	10	NW.	-12	NW.	-18	NW.	-10	NW.	12	NW.
Williamstown.....	-7	NW.	9	NW.	-6	NW.	-17	NW.	-3	NW.	5	NW.
RHODE ISLAND.												
Newport.....	5	NW.	18	W.	8	NE.	-6	N.	10	N.	22	N.
CONNECTICUT.												
Pomfret.....	-3	NW.	10	SW.	0	N.	-19	N.	5	N.	19	NW.
Columbia.....	-2	NW.	10	NW.	6	NE.	-20	NW.	0	NW.	24	NW.
Colebrook.....	-11	NW.	8	W.	4	NE.	-25	NW.	-4	NW.	13	NW.
NEW YORK.												
Meriches.....	12	NW.	17	W.	18	N.	-10	N.	10	N.	22	NW.
South Hartford.....	-8	S.	-11	NE.	-17	NE.	-19	NE.	-10	N.	9	SW.
Fishkill Landing.....	6	NW.	16	W.	2	NE.	-13	NE.	4	NE.	11	N.
Garrison's.....	3	W.	16	W.	-2	NW.	-16	NW.	1	NE.	12	NW.
Throg's Neck.....	5	N.	14	W.	16	N.	-14	NE.	3	NE.	16	N.
New York, (D. and D. Inst.).....	10	NW.	20	W.	20	N.	-13	N.	6	NW.	17	NW.
New York, (Col. College).....	7	NW.	16	W.	14	NW.	-13	NW.	6	NW.	14	NW.
Newburgh.....	5	NW.	19	W.	-2	NE.	-15	NE.	5	NE.	13	NE.
Gouverneur.....	-22	0	-18	NE.	-28	NE.	-24	SW.	-17	SW.	-5	SW.
Oneida.....	-12	E.	0	E.	-10	W.	-20	W.	-4	W.	11	W.
Theresa.....	-22	SE.	-18	NE.	-22	NE.	-21	NE.	-18	SE.	-4	SE.
Depauville.....	-13	E.	-10	NE.	-16	N.	-14	N.	-8	NW.	-2	S.
Oswego.....	-8	E.	-2	N.	-9	NE.	-8	N.	1	N.	11	E.
Palermo.....	-16	NE.	-11	N.	-18	N.	-20	N.	-10	NW.	5	NE.
Baldwinsville.....	-3	E.	-4	NW.	-14	N.	-18	N.	-5	N.	14	W.

Temperature and wind at 7 a. m. January 5-10, 1866—Continued.

Place.	January 5.		January 6.		January 7.		January 8.		January 9.		January 10.	
	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.
NEW YORK—Continued.												
Skaneateles.....	—3	N.	—2	N.	—15	N.	—19	N.	—6	NW.	16	W.
Nichols.....	2	NW.	17	NW.	2	NW.	—12	N.	—2	S.	8	N.
Geneva.....	1	W.	6	NE.	—5	NE.	—12	NE.	3	W.	8	S.
Rochester, (Dewey).....	3	S.	12	SE.	—2	.....	—3	S.	—4	S.	4	S.
Rochester, (Mathews).....	4	SW.	14	NW.	—2	.....	—3	NW.	—3	0	4	NW.
Jamestown.....	2	N.	10	NW.	0	N.	—17	N.	—7	N.	—6	S.
NEW JERSEY.												
Paterson.....	7	NW.	16	W.	17	NW.	—13	N.	5	N.	14	NW.
New Brunswick.....	6	W.	13	W.	16	N.	—12	N.	3	N.	17	N.
Trenton.....	11	NW.	18	W.	20	N.	—12	N.	6	N.	20	NW.
Burlington.....	9	NW.	14	W.	23	NE.	—8	N.	5	N.	18	N.
Moorestown.....	7	NW.	14	W.	22	N.	—12	N.	5	NW.	17	NW.
Mount Holly.....	12	NW.	17	NW.	23	NE.	—9	N.	5	NW.	19	NW.
Haddonfield.....	8	NW.	14	SW.	23	N.	—12	N.	5	NW.	17	NW.
Greenwich.....	12	NW.	14	NW.	27	0	—9	N.	7	N.	18	N.
PENNSYLVANIA.												
Blooming Grove.....	—5	NW.	8	0	7	N.	—23	N.	—4	N.	4	0
Fallsington.....	11	NW.	16	W.	22	E.	—9	N.	7	NE.	21	N.
Philadelphia.....	14	NW.	16	SW.	25	NE.	—8	NW.	8	NW.	19	NW.
Germantown.....	6	N.	7	NW.	20	W.	—13	NW.	5	N.	15	N.
Moorland.....	7	NW.	10	S.	20	W.	—12	W.	6	W.	15	W.
Dyberry.....	—4	NW.	10	W.	7	N.	—22	N.	—6	N.	3	N.
Nazareth.....	4	NW.	17	SW.	13	NE.	—11	NW.	8	NW.	22	NW.
Ephrata.....	6	NW.	5	NW.	22	NE.	—9	NW.	9	NW.	18	NW.
Silver Spring.....	6	0	6	0	24	0	—6	NW.	10	N.	16	NW.
Mountjoy.....	14	NW.	11	.....	15	NW.	—5	NW.	5	NW.	22	.....
Harrisburg.....	17	NW.	17	NW.	27	NE.	—2	N.	12	N.	22	N.
Tioga.....	0	NW.	18	NW.	3	N.	—24	0	—10	0	—10	W.
Pennsville.....	5	0	9	0	10	N.	—12	0	—2	0	5	W.
Connellsville.....	7	W.	16	SW.	22	NW.	—12	N.	—4	N.	4	E.
Canonsburg.....	6	NW.	16	NW.	16	E.	—7	E.	—3	NE.	6	0
Byberry.....	8	W.	.....	NW.	.....	N.	—11	NW.	6	W.	19	W.
Siegfried's Bridge.....	0	NW.	15	W.	16	NW.	—13	NW.	3	0	17	0
Lewisburg.....	3	.....	17	.....	12	NW.	—7	W.	7	N.	7	.....
Parkesville.....	8	NW.	7	NW.	22	NE.	—10	N.	7	N.	18	NW.
MARYLAND.												
Woodlawn.....	10	N.	10	NW.	26	NE.	—7	N.	8	N.	20	N.
Annapolis.....	15	NW.	10	SW.	26	NE.	—5	NE.	8	NE.	21	NW.
St. Ingoes.....	16	N.	12	W.	35	NW.	—8	N.	15	NW.	25	N.
Catonsville.....	10	W.	10	SW.	25	N.	—7	NE.	10	NE.	22	NW.
DISTRICT OF COLUMBIA.												
Washington.....	17½	.....	17	.....	30	.....	—2	.....	12	.....	21	.....
VIRGINIA.												
Wytheville.....	8	W.	18	W.	30	W.	9	NE.	15	W.	23	.....
WEST VIRGINIA.												
Cabell Court-house.....	21	.....	18	.....	14	.....	3	.....	6	.....	14	.....
GEORGIA.												
Atlanta.....	17	NW.	22	NW.	22	NW.	35	N.	15	NW.	21	N.
MISSISSIPPI.												
Natchez.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ARKANSAS.												
Helena.....	24	N.	32	N.	37	E.	41	SE.	28	E.	33	SE.
TENNESSEE.												
Clarksville.....	17	SE.	26	SE.	32	SE.	17	NE.	16	NE.	24	S.
KENTUCKY.												
Louisville.....	8	0	22	S.	30	0	5	S.	5	0	25	E.
Danville.....	9	NW.	26	W.	32	SW.	8	NE.	8	NE.	28	S.
London.....	7	0	.....	.....	24	SW.	8	N.	6	NE.	16	0

Temperature and wind at 7 a. m. January 5-10, 1866—Continued.

Place.	January 5.		January 6.		January 7.		January 8.		January 9.		January 10.	
	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.
OHIO.												
Austinburg.....	18	NW.	12	S.	10	NE.	-3	NE.	-10	S.	18	S.
Saybrook.....	9	W.	13	NE.	13	NE.	-1	SW.	-8	S.	10	S.
New Lisbon.....	10	NW.	18	SW.	18	N.	-2	NE.	0	NW.	5	NW.
East Fairfield.....	9	NW.	14	SW.	17	NE.	-3	NE.	3	W.	10	SE.
Stuebenville.....	11	NW.	18	SW.	22	NW.	-6	NW.	4	NW.	9	NW.
Milnersville.....	9	NW.	20	SE.			-3	N.	-2	SE.	9	SE.
East Cleveland.....	11	W.	17	W.	17	N.	5	NE.	0	S.	23	S.
Wooster.....	11		16		16		-2		1		16	
Gallipolis.....	11	W.	18	S.	28	SW.	1	NE.	3	E.	13	S.
Kelley's Island.....	13	W.	18	SE.	18	NE.	13	N.	3	SW.	9	SW.
Norwalk.....	13	SW.	18	S.	16	NE.	8	E.	3	NE.	23	SW.
Westerville.....	10	N.	11	SW.			-2	N.	17	N.	19	NW.
Kingston.....	9	W.	18	S.	26	E.	0	NE.	2	S.	20	SE.
Toledo.....	13	SW.	16	SW.	15	N.	-1	NE.	4	SW.	23	SW.
Marion.....	9	W.	14	S.	17	NE.	-1	E.	0	SW.	18	SE.
Urbana.....	4	W.	19	S.	19	NW.	-2	E.	0		21	S.
Hillsboro'.....	6	SW.	16	SW.	23	NE.	-2	N.	4	NE.	19	SE.
Ripley.....	10		20		29	N.	3	NW.	6		21	W.
Bethel.....	6	W.	19	S.	26	NE.	0	NE.	3	NE.	21	SE.
Cincinnati.....	8	W.	20	W.	25	NE.	2	NE.	6	NE.	24	E.
College Hill.....	6	S.	18	NW.	23	NE.	2	NE.	4	SW.	23	S.
MICHIGAN.												
Monroe.....	14	NW.	21	W.	14	NE.	-8	NE.	5	SW.	21	SW.
Lansing.....	11	NW.	14	SE.	6	NE.	-6	E.	-7	SE.	24	SW.
Homestead.....	10	NW.	14	N.	-5	NE.	-16	NE.	8	SW.	26	SE.
Holland.....	13	W.	12	E.	1	E.	-4	NE.	-9	SE.	26	S.
INDIANA.												
Veray.....	4	W.	13	SW.	28	NE.	4	NE.	2	NE.	25	SE.
Richmond.....	3	W.	11	SW.	23	NE.	1	E.	2	E.	23	S.
Spiceland.....	2	SW.	20	SW.	21	NE.	2	NE.	8	S.	24	S.
Columbia.....	-4	W.	12	W.	-2	NE.	-2	NE.	-4	SE.	30	SW.
Indianapolis.....	3		15		22		4		2		27	
New Harmony.....	13	NW.	30	S.	31	NW.	13	NE.	30	E.	30	SW.
Balbec.....	3	W.	18	SE.	19	NE.	-1	NE.	-2	SE.	25	W.
Aurora.....	5	NW.	19	NW.	26	NW.	0	NE.	2	E.	20	S.
ILLINOIS.												
Chicago.....	-8	NW.	22	SW.	16	SE.	4	SE.	8	S.	24	SW.
Evanston.....	-3	NW.	12	SE.	21	NE.	12	SE.	12	SW.	31	SW.
Marengo.....	-4	SW.	9	E.	15	NE.	7	NE.	8	SE.	30	S.
Riley.....	-4	W.	15	E.	15	NE.	4	E.	6	S.	32	S.
Aurora.....	-5	W.	15	S.	19	E.	4	E.	6	SE.	31	S.
Sandwich.....	-4	W.	10	SW.	17	NE.	0	E.	5	SE.	32	S.
Ottawa.....	-2	W.			20	NE.	5	NE.	11	SW.	32	S.
Winnebago.....	-4	W.	10	NE.	14	NE.	6	E.	7	SE.	32	S.
Wyanet.....	-4	NW.	26	SE.	22	NE.	5	E.	9	SE.	33	SW.
Tiskilwa.....	0	NW.	22	SE.	23	NE.	5	E.	10	E.	32	SE.
Elmhurst.....	-3		22		21		6		14		31	
Peoria.....	4	W.	28	S.	23	N.	9	S.	16	S.	34	S.
Springfield.....	7	W.	26	SE.	18	E.	10	NE.	14	SE.	30	S.
Dubois.....	4	NW.	26	SE.	28	W.	15	SE.	22	SE.	32	SE.
Galesburg.....	0	NW.	22	SE.	20	E.	4	SE.	12	SE.	32	SW.
Augusta.....	2	SW.	32	S.	21	E.	8	E.	21	SE.	34	S.
Manchester.....			27	SE.	21	NW.	10	E.	14	E.	36	S.
Clinton.....	0	NW.	27	SW.	17	NE.	9	E.	16	SE.	35	S.
Golconda.....	14	NW.	24	W.	25	W.	20	N.	18	NE.	27	S.
Mount Sterling.....	2	SW.	28	SE.	24	NE.	8	E.	16	E.	32	SE.
Loami.....	0	SW.	25	SW.	21	NE.	8	NE.	13	SE.	32	SE.
WISCONSIN.												
Manitowoc.....	-5	NW.	15	N.	15	N.	16	SE.	18	SW.	28	S.
Milwaukee, (Lapham).....	-5		14		15		16		14		30	
Milwaukee, (Winkler).....	-3	W.	5	NW.	14	NE.	14	SE.	14	S.	28	S.
Ripon.....	-8	W.	15	NE.	13	NE.	15	SE.	17	SE.	33	SW.
Delavan.....	-5	NW.	10	E.	14	NE.	12	E.	8	S.	30	S.
Waupaca.....	-5	NW.	5	NE.	8	NE.	10	SE.	12	SE.	30	S.
Weyauwega.....	3	NW.	14	NE.	16	N.	19	NE.	19	SE.	34	S.
Embarrass.....	-12	NW.	10	NW.	10	N.	12	NW.	18	S.	28	S.
Rocky Run.....	-2	NW.	13	NE.	13	NE.	13	SE.	12	S.	33	S.

Temperature and wind at 7 a. m. January 5-10, 1866—Continued.

Place.	January 5.		January 6.		January 7.		January 8.		January 9.		January 10.	
	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.	Tem.	Wind.
WISCONSIN—Continued.												
Baraboo.....	4	W.	16	NE.	16	E.	16	SW.	20	S.	36	W.
Beloit.....	— 3	W.	14	0	15	NE.	10	E.	8	SE.	33	S.
Plymouth.....	— 8	NW.	12	SE.	14	NE.	14	SE.	10	S.	28	SW.
Odanah.....												
MINNESOTA.												
Beaver Bay.....												
Afton.....	—10	SW.	6	NE.	—4	N.	—2	SE.	19	SE.	30	E.
St. Paul.....	— 8	SE.	7	N.	2	E.	—2	SE.	20	SE.	31	SE.
Minneapolis.....	—11	S.	4	NE.	—5	E.	—2	SE.	17	S.	29	SE.
Forest City.....	— 7	W.	6	NE.	6	E.	12	SE.	24	SE.	30	
Sibley.....	— 7	E.	4	NE.	—3	E.	6	E.	20	SE.	33	SE.
New Ulm.....	— 3	S.	8	N.	0	E.	10	E.	24	S.	36	E.
Bowles Creek.....	—10		6		—6		5		19		30	
IOWA.												
Clinton.....	0	NW.	15	E.	18	E.	3	NE.	10	SE.	24	SE.
Davenport.....	4	NW.	24	SW.	18	E.	9	NE.	15	SW.	32	SW.
Dubuque.....	1	NW.	18	0	17	E.	12	0	18	SE.	36	S.
Muscatine.....	— 3	0	24	S.	19	E.	17	SE.	18	S.	33	S.
Fort Madison.....	1	W.	23	SW.	24	NE.	7	SE.	20	SE.	33	SW.
Guttenberg.....	— 4	W.	13	E.	13	NE.	8	E.	16	SE.	33	S.
Ceres.....	— 5	0	12	0	14	SE.	5	SE.	16	SW.	32	SW.
Manchester.....	—10	SW.	12	SE.	16	NE.	2	SE.	14	SE.	32	SW.
Mount Vernon.....	— 3		19		18		8		18		34	
Iowa City.....	0	SW.	20	SW.	21	NE.	10	NE.	28	SE.	34	SE.
Independence, (Wheaton).....	—12		10		13		1		15		33	
Independence, (Deering).....	0		18		4		6		17		34	
Waterloo.....	— 1		16		16		18		26		36	
Iowa Falls.....	5	E.	18	NE.	14	SE.	16	SE.	23	SE.	32	SE.
Des Moines.....	5	SW.	20	NW.	24	E.	18	E.	26	SE.	37	SW.
Monticello.....	—10	SW.	12	SE.	16	NE.	2	SE.	14	SE.	32	SW.
Lyons.....	6	0	18	0	15	NE.	2	E.	2	SE.	32	SE.
MISSOURI.												
St. Louis.....	23	NE.	34	S.	28	NE.	20	NE.	21	E.	37	SE.
Athens.....	38	W.	34	E.	30	N.	12	E.	26	E.	33	E.
Canton.....	2	S.	30	SE.	26	NE.	9	SE.	28	SE.	35	SE.
Harrisonville.....	12	E.	32	SW.	34	NE.	28	E.	30	SE.	42	S.
Easton.....	11	0	36	SW.	24	SW.	22	NE.	30	S.	40	S.
KANSAS.												
Olathe.....	18		36	SW.	27	SE.	29	SE.	30	SE.	41	SW.
Atchison.....	8	SW.	29	SW.	24	SE.	23	N.	29	SE.	40	SE.
Fort Riley.....	27	SW.	32	SW.	28	W.	30	NW.	41	SW.	45	SW.
NEBRASKA.												
Elkhorn City.....	12	S.	17	NW.	24	SE.	21	SE.	31	S.	39	SW.
Bellevue.....	9	S.	20	SW.	27	NE.	30	NE.	34	S.	36	S.
UTAH.												
Great Salt Lake City.....	10	SE.	10	NE.	25	S.	25	SE.	18	E.	26	NW.

